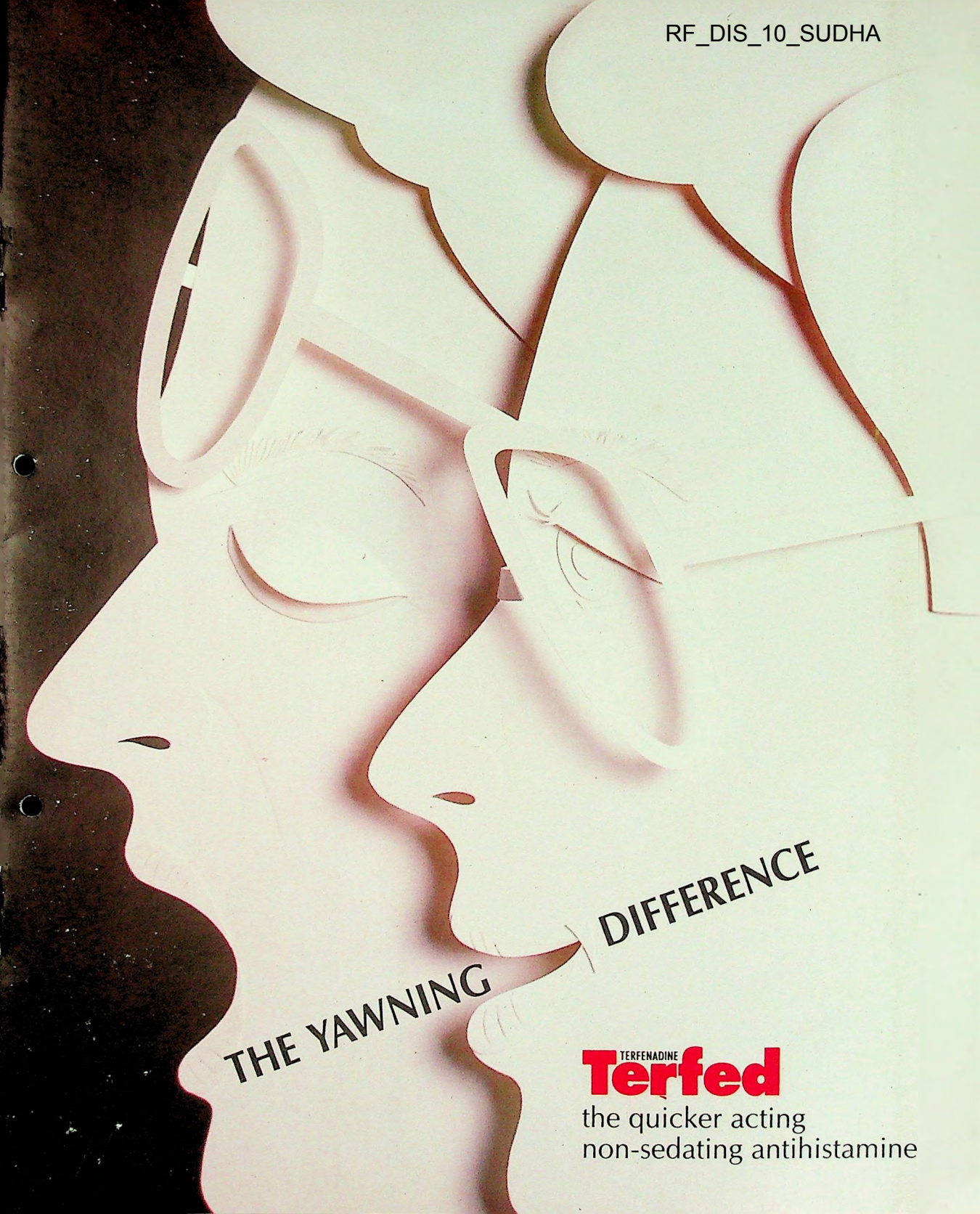
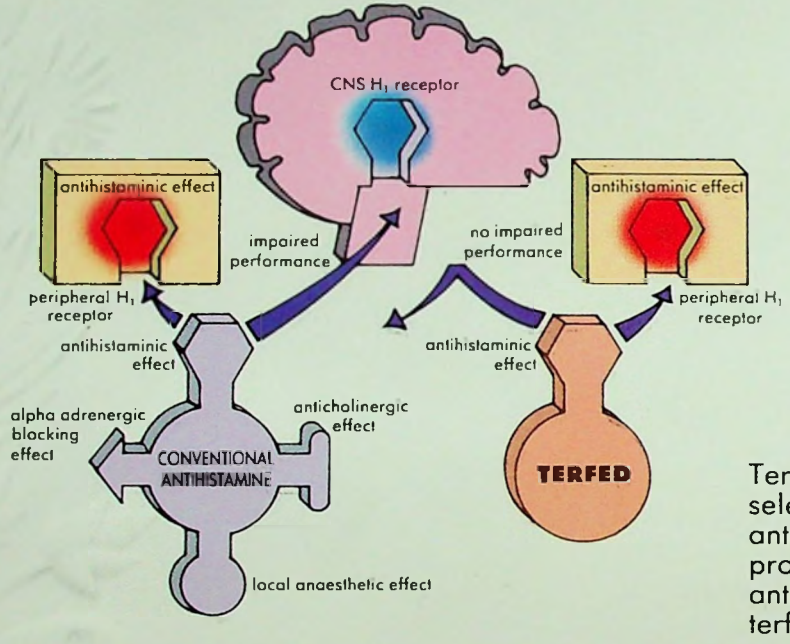


TERFENADINE
Terfed
the quicker acting
non-sedating antihistamine

TERFENADINE

Terfed

a specific peripherally-acting antihistamine



Terfenadine (Terfed) is a new, selective histamine H_1-receptor antagonist devoid of sedative properties associated with antihistamine therapy. Clinically, terfenadine (Terfed) is effective against perennial allergic rhinitis, acute seasonal allergic rhinitis, and allergic skin conditions, while being devoid of CNS effects including sedation, psychomotor impairment or interaction with diazepam or alcohol.

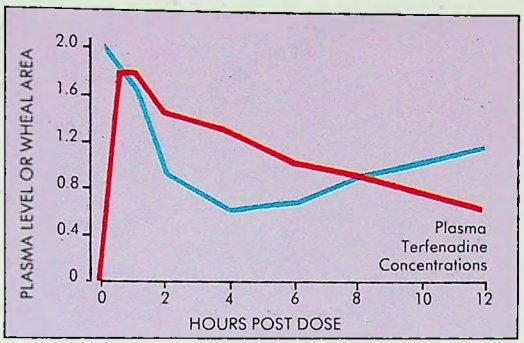
Terfenadine (Terfed) is an antihistamine with a completely different and novel profile from the "classical antihistamines" and as such should prove to have significant clinical advantages for the symptomatic treatment of histamine-associated disorders.

Quick relief of allergic symptoms

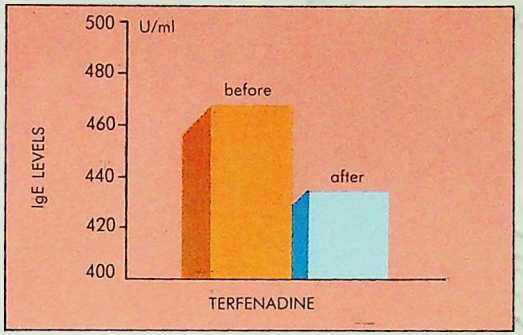
"The antihistaminic effect of terfenadine (Terfed) becomes evident within 2 hours and several studies have demonstrated that terfenadine (Terfed) 60 mg suppresses nearly 100% of the histamine-induced wheal response in man and this suppression lasts for at least 12 hours."

Drugs 29, 1985, p 39

Inhibition of wheal area



Inhibition of IgE-levels

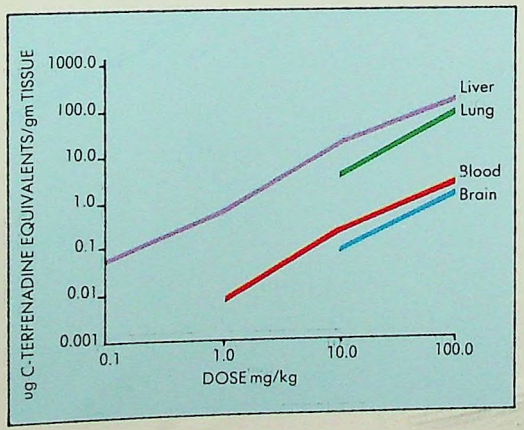


Free from sedative side-effects

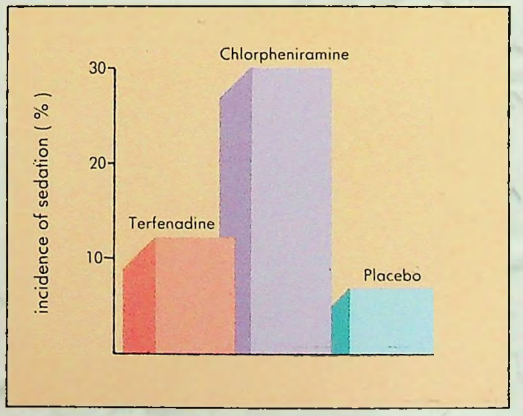
"A battery of sophisticated studies of central nervous system function in man, including electroencephalogram (EEG) analyses in several laboratories confirm the numerous clinical reports that terfenadine (Terfed) is devoid of the sedating action characteristic of other antihistamines. No basis has been uncovered for concern about inadvertent overdosage or the operation of machinery while under antihistaminic treatment with terfenadine (Terfed)."

Arzneim.-Forsch. Drug Res., 32(II) No. 9a, 1982, p 1193

Low brain concentrations



Devoid of sedation

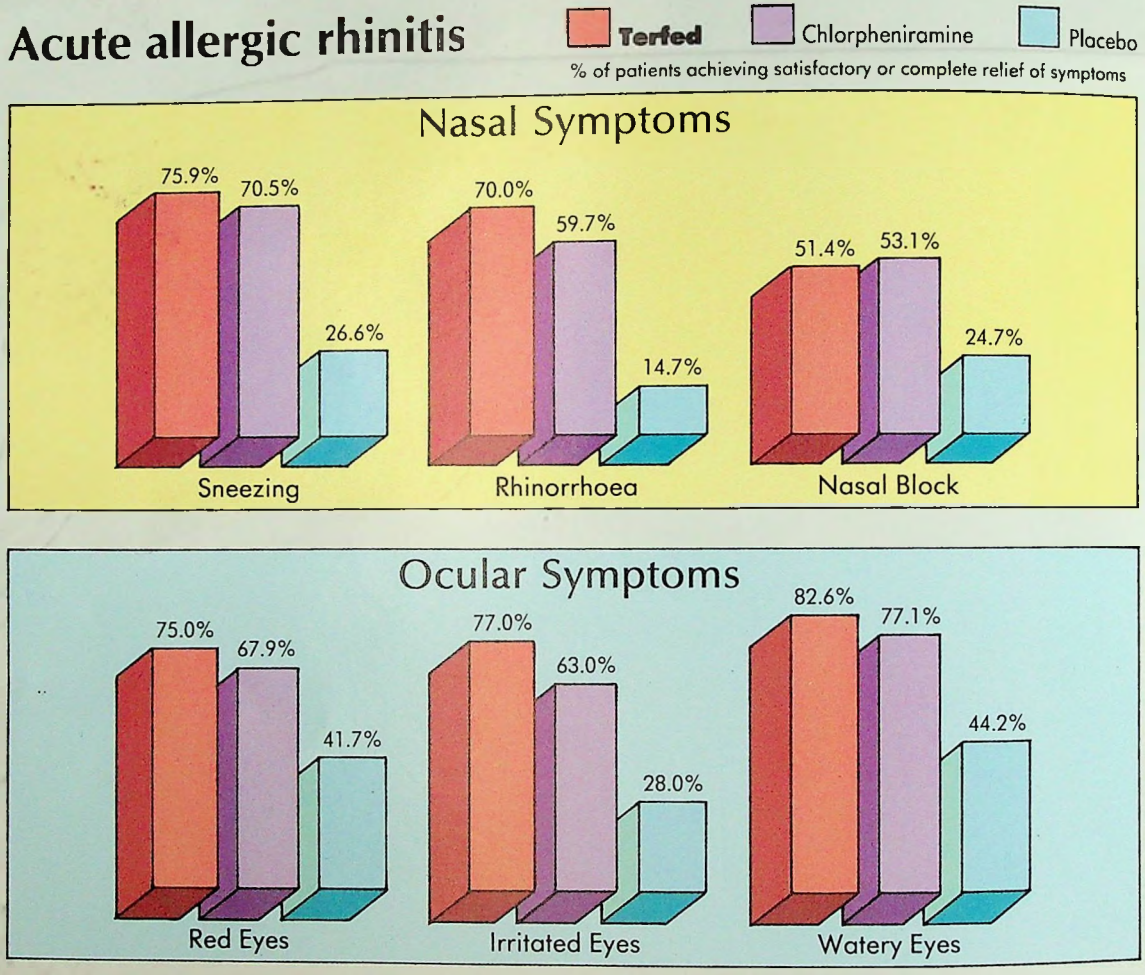


TERFENADINE

Terfed

the quicker acting non-sedating antihistamine

Acute allergic rhinitis



"In the patient with acute allergic rhinitis, terfenadine (Terfed) may well be the primary drug of choice for relief of symptoms, such as itchy and watery eyes, itchy palate, itchy and runny nose, and sneezing by acting as an antagonist of histamine in such reactions."

Arzneim.-Forsch. Drug Res., 32(II), No 9a, 1982, p 1205

Perennial rhinitis

"Efficacy of terfenadine (Terfed) has been estimated from a global appreciation and the evolution of 11 symptoms, and tolerance on the frequency of diurnal sleepiness. The results showed a very good efficacy of terfenadine (Terfed) and the absence of a depressant effect."

Arzneim.- Forsch. Drug Res., 32(II), No 9a, 1982, p 1206

Urticaria and eczema

"Terfenadine (Terfed), at a dosage of 60 mg twice daily for upto 2 weeks has been shown to be comparable to other antihistamines or superior to placebo in achieving relief of symptoms in skin diseases due to histamine release, including primarily urticaria and eczema."

Drugs 29, 1985, p 50

Chronic pruritus

"Terfenadine (Terfed) was significantly ($P<0.05$) more effective than chlorpheniramine and placebo in the treatment of chronic pruritus of liver disease."

Drugs 29, 1985, p 50

Chronic idiopathic urticaria

"Terfenadine (Terfed) can be considered an acceptable first-line non-sedative antihistamine in the treatment of CIU (chronic idiopathic urticaria)."

Br. J. Clin. Pharmac., 20, 1985, p 641

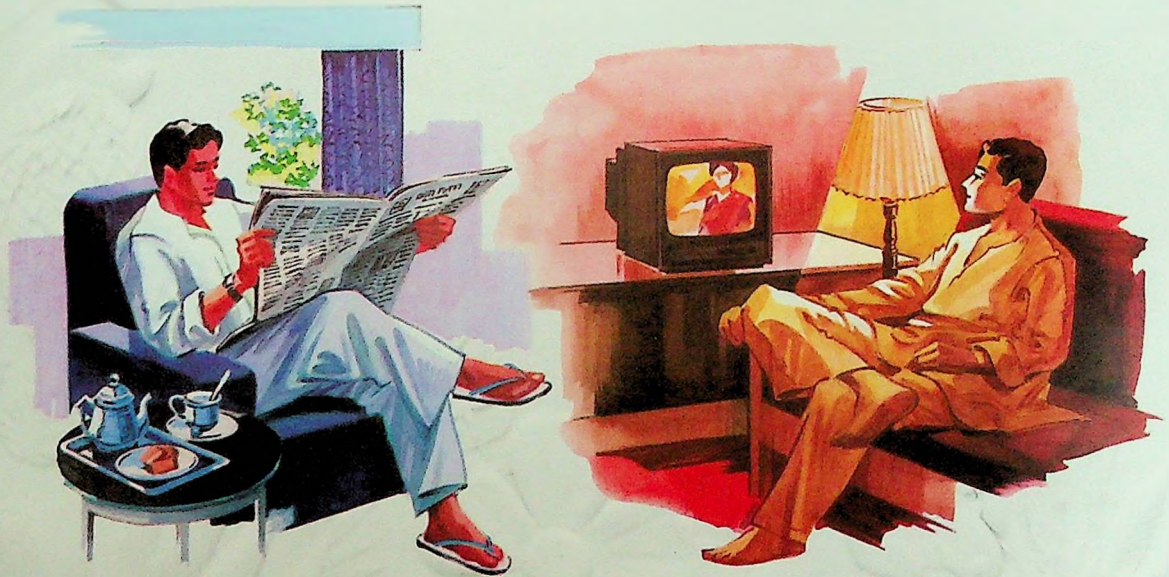
TERFENADINE

Terfed

the quicker acting
non-sedating antihistamine

Rapid relief and complete protection

Convenient twice daily dosage



Free from sedative effects

No potentiation of the sedative effects of alcohol or diazepam

For the use only of a Registered Medical Practitioner or a Hospital or a Laboratory

TERFENADINE Terfed

the quicker acting non-sedating antihistamine

Perennial & Seasonal Allergic Rhinitis
Vasomotor Rhinitis

Urticaria
Contact Dermatitis
Eczemas

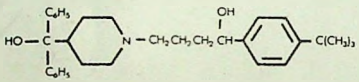
Allergic Conjunctivitis
Common Cold
Bronchial Asthma

Prescribing Information

Description

Terfed is a selective H_1-histamine receptor antagonist. Chemically it is ∝ -[4-(1, 1-dimethylethyl) Phenyl] -4-(hydroxydiphenyl methyl) -1-piperidinebutanol.

Chemical Structure



Composition

Terfed Tablets
Each uncoated tablet contains:
Terfenadine USP..... 60mg
Terfed Suspension
Each 5 ml contains:
Terfenadine USP..... 30mg

Indications

Terfed is indicated for the relief of symptoms associated with perennial and seasonal allergic rhinitis and vasomotor rhinitis, and in urticaria, contact dermatitis, and eczemas.

Terfed is also indicated in other histamine-mediated disorders such as allergic conjunctivitis, common cold and bronchial asthma.

Contraindications

Terfed is contraindicated in patients with a known hypersensitivity to the drug.

Warnings/Precautions

Although incidence of adverse effects associated with use of Terfed is less, the potential for typical adverse effects induced by antihistamines should be considered during Terfed therapy.

Consideration should be given to potential anticholinergic (drying) effects in patients with lower airway disease, including asthma. Patients receiving Terfed therapy should be instructed to take the drug only as needed and not to exceed prescribed dose.

Pregnancy and Lactation: There are no adequate and controlled studies to date using Terfed in pregnant women and lactating mothers. Hence the drug should be used in this group of patients only when the potential benefits justify the possible risks. Women of childbearing age must be questioned about pregnancy prior to Terfed therapy.

Drug Interactions

There are currently no known drug interactions associated with the use of Terfed.

Adverse Reactions

Adverse reactions to Terfed occur relatively infrequently and are transient and mild in severity.

Most common adverse effects (5-16%) include sedation, dizziness, nervousness and weakness.

Other reactions (5-8%) include abdominal distress, nausea, vomiting and change in bowel habits.

Rarely (1%) dryness of mouth, nose, throat and skin eruptions have been observed.

Mild to moderate increases in serum aminotransferase concentrations have been reported.

Dosage and Administration

Adults and Children above 12 years of age: 60 mg twice daily or 120 mg once daily

Children:
6-12 years: 30 mg twice daily
3-5 years: 15 mg twice daily

Presentation

Terfed Tablets
Strip of 10 tablets
Terfed Suspension
Bottle of 50 ml

Cipla
Cipla Ltd.
Bombay Central Bombay 400 008

0/1:TFD:4L

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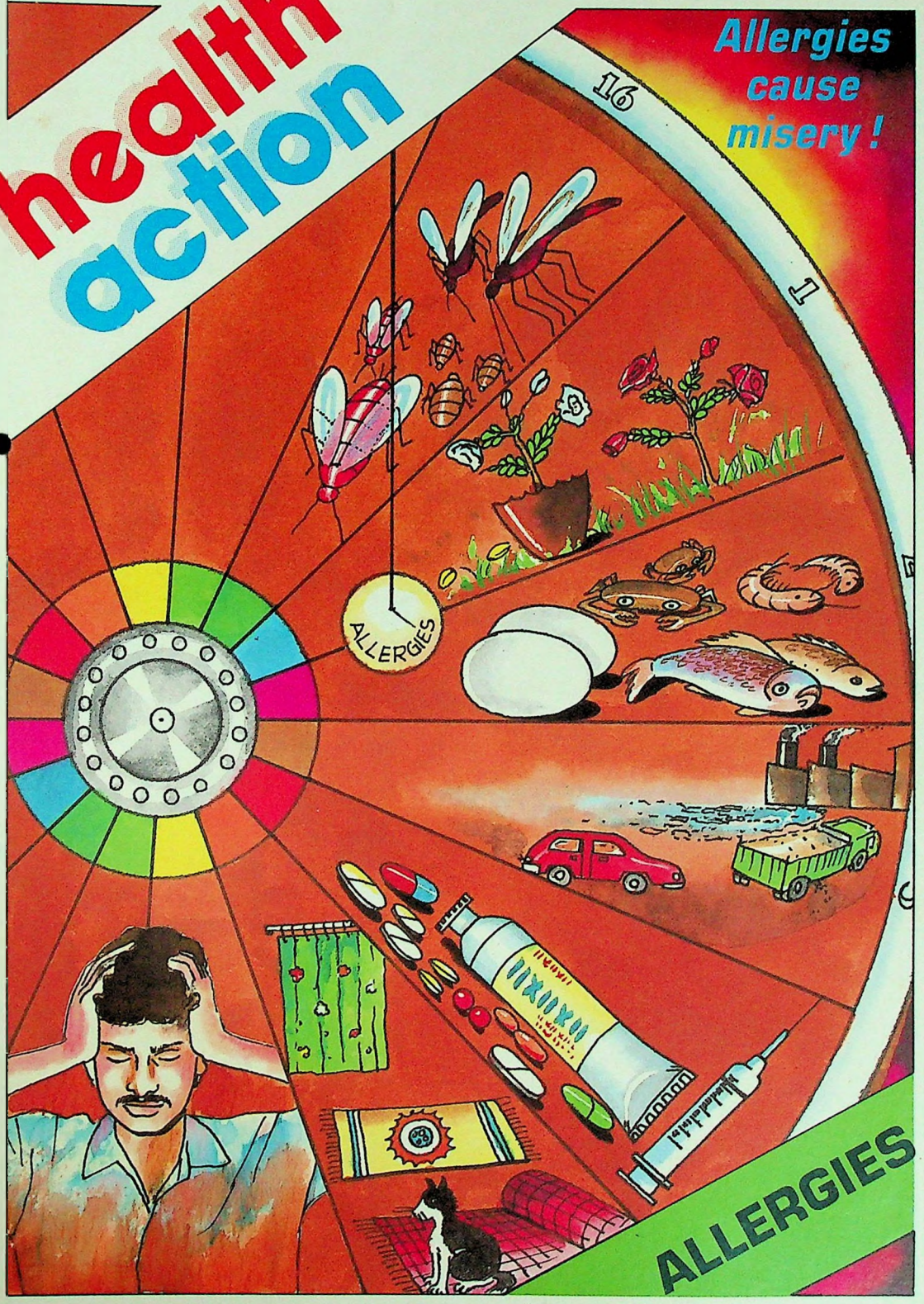
ISSN NO 0970-4711

health action

Allergies cause misery !



ALLERGIES

VOL 2 NO 8 AUGUST 1989 Rs 5

Your executives can now fly to work. At ground level.

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Presenting the luxury of the new Tempo-Traveller

Tempo-Traveller is the new executive perk

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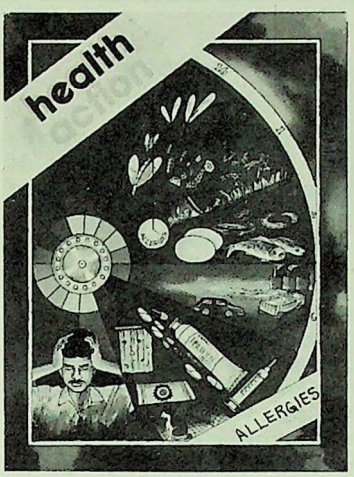


Cover Artwork
K Balu

CONTENTS

Correction: The reference list on page 48 in July 1989 issue is in connection with the article that ends on page 25.

The Editor speaks —

About 30% of all people are allergic to one thing or another. The substances which cause allergy (allergies) are all around us: pollens (a notorious one is parthenium), dust in the house, bee sting, white of eggs, cosmetics, detergents, food substances and many others.

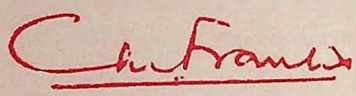
Allergy has been known from ancient times. In the ninth century AD, Abu Ah-Razi had described "rose fever" — allergic manifestation in many people when the roses bloomed in Spring. But it is in recent times that allergy has received attention.

Allergy is based on immunological process. Our bodies produce antibodies against foreign substances. This reaction is useful in infections, giving protection against invading organisms. Allergy is due to an over-reaction. Antibodies form when the person comes into contact with the allergens the first time itself. The first phase sensitises the person to the foreign substance. At the second contact with the same allergen, symptoms of allergy occur.

Allergic reactions may be slow or immediate in onset. The consequences may be mild or severe — rashes, eczemas, asthma, hay fever, itching, fall in blood pressure, shock and may even lead to death. Allergic reactions are caused by the release of various chemicals. If the reaction occurs in the lower respiratory tract, narrowing of air ways, wheezing and shortness of breath (characteristics of bronchial asthma) occurs; in the nose and sinuses, it can cause sneezing, running of the nose and nasal obstruction (allergic rhinitis); if in the skin, urticaria and itching.

The management of allergy is not easy. Many persons are forced to change their jobs and environment. Discovering what causes allergy is very difficult. There are some testing procedures to find out the cause but they are difficult and time consuming.

Because histamine is one of the most important mediators of allergic reactions, antihistamines are used; they are not successful in all cases. Steroids are prescribed but the need for prolonged treatment leads to adverse side-effects. Desensitisation is another process which can be tried. This process requires repeated exposures to the allergens over a long period of time. It is to be hoped that current research into the causation and better understanding of allergy will enable us to better management of allergy.



Dr CM Francis
Editor

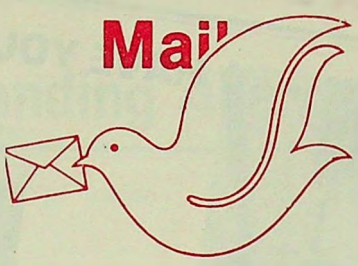
From the Director's Desk —

From a situation like mine it becomes rather difficult to write on a subject like allergies. I am sure there aren't many people who have not become victims of this mysterious illness — an illness for which a complete cure is yet to be found. This only shows that medical science cannot find answers to everything though it may like to make tall claims in this connection. Many are the ways one could look at the whole question of allergy. Let me explain how I would like to look at it. The effects of allergy are on two levels, ie the individual person and society itself. For an individual, it is the story of untold misery and suffering for a long period for no fault of the suffering person. Fault may lie on his genetic make up or the environment in which he lives and in both he has no say and the person is just a victim. At the society level it is a very complex problem to which the answer is not forthcoming. Many are the factors that affect society at large and a diagnostic process with the help of all possible gadgets available in the medical field cannot at times find the root causes of allergy. What is more needed and useful would be a process of social diagnosis to find out the link between allergies on the one hand and the socio, economic, political, religious, cultural dimensions on the other.

The memories of the man made tragedies of Bhopal, Chernobyl etc. are still fresh in our minds. Whatever the Union Carbide and their sympathisers in our country may say, their responsibility for this great human tragedy cannot be explained away by any standards. The effects of this tragedy on thousands of survivers and the dear one's of the thousands who died, for years to come will testify to the whole world the unforgivable negligence on the part of all concerned with regard to this tragedy.

Allergy needs to be looked into the socio-economic, political dimensions. Though our attempt in this issue primarily is to look at allergies in the clinical and allied aspect, there is a need to dig deeper and look at it from different angles, covering wide issues. Many allergies are a by-product of industrialisation and its ill effects, especially high profit making at any cost, is the primary concern of the industry. Here human beings get perhaps the lowest priority. Any attempted exercise of a political will by any section of the people against such a situation may not find its way ahead in the given circumstances.

See page 3



• In Health Action issue of June 1989 the article 'Diabetes — Today's Scenario, mentions incorrect values of Blood sugar to diagnose one as Diabetic. By any criteria the values shown are not correct. Most of the pioneer refer the values laid down by WHO 1980 or by National Diabetes Data group 1979. I am quoting here the criterias of WHO for diagnosis of Diabetes Mellitus Venous capill. Venous plasma

Fasting — 120 mg% — 120 mg — 140 mg%

P P after 2 hours — 180 mg —200 mg% — 280 mg%

If symptoms of Diabetes are present then Random venous plasma value of 200 mg% or more or fasting value of 140 mg% is found.

In absence of symptoms of diabetes atleast one additional abnormal blood Glucose value is needed to confirm the clinical diagnosis. eg. 1 hour post glucose value of 200 mg% during first test or an elevated 2 hour or fasting Glucose on subsequent occasion.

The important G T T Means a fasting B Glucose value of 120 (venous) 140 venus plasma & PP (2 hr) Glucose and 75 Gm or 1.75 Gm/ng) between 120 — 180 mg% (venous)/140 — 200 mg% (venous plasma)

Almost similar values are prescribed by National Diabetic Data GkP.

The diagnostic values in Pregnancy are different and all pregnant women must be examined between 24-28 week of pregnancy for Diabetes. The criteria of O'Sullivan and Mahan are useful.

Dr HS Bajpai MD
Pilibhit

• I receive your copy of Health Action regularly. I endorse your view of mutural concern, mutual sharing and mutual respect for each other is the only way by which we can develop a system for health action. I also endorse your wholistic approach to health. We need a deeper analysis of our food habits, living style, environment, customs and cultures, our standard of knowledge and economic standard etc. etc.

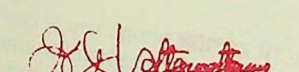
I like to draw your attention to the article, "Homoeopathic view on Diabetes" by Dr B S Manjunath in your June 1989 issue. I would like to submit that so far as the diagnosis, causation, prognosis, and complication etc. are concerned, there is no difference in Allopathic and Homoeopathic point of view. There is difference between Allopathic and Homoeopathic point of view only in the way of treatment. We individualise each and every case and prescribe medicine only on the totality of symptoms of the patient: subjective and objective symptoms; mental and physical symptoms of the patient as a whole. We have no standard medicine for the disease. We have medicine for the patient who is suffering from the disease say Diabetese Mellitus. Whereas in Allopathy there are standard medicines for the Disease. They diagnose the disease and have the medicine.

The above article does not reflect Homoeopathic point of view. This type of article only reflects that you want to present wholistic view of the disease and the treatment available, but in a biased manner. Your title is on the Allopathic side. It should be balanced. The article should be written by some eminent person of the system having full command on the system. For this purpose you should inform the person sufficiently in advance so that he may spare some of his time for the service of the mankind. I appreciate your difficulties, you may be facing for the original articles from the eminent persons. They have no time for the purpose where there is no money.

Dr Kursija SC
Ashok Vihar, Delhi

from page 2

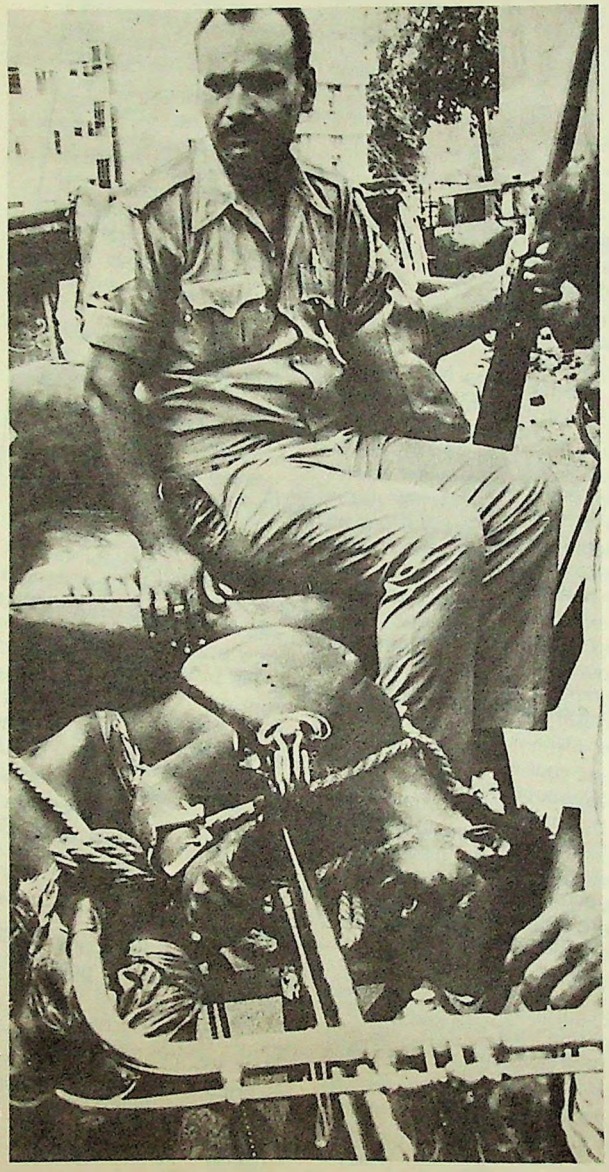
If we are serious about the prevention and effective control of allergies, we need to ask a few honest questions of ourselves: What about our industrial policy? Does it give priority to people or to machinaries and fat profits? What about our licencing policy for new industries? Why are they allowing factories to come up in the middle of residential areas? Is there a huddling together of factories in the same cities again for better profit margin whereby forcing people to leave their homes in search of jobs at a very high cost affecting their kith and kin very badly? What about safety measures at these factories? Do we realise that pollution and pesticides are two of the major threats to healthy human life today? What is our policy on these? What about the policy on waste disposal? Many of our rivers are polluted leading thereby a threat to all kinds of life. Ho do we look at these situations? These are but a few — there are many more questions that defy answers. Yet, however unpleasant they are, they need to be asked and proper answers found. Allergies cause misery to many. Will the society exercise its political will to reduce allergies and thereby miseries, or will the greedy continue to inflict and increase miseries after miseries to many more? *Else, do we change the universal strategy of 'Health For All by 2000 AD to 'Allergy For All even before 2000 AD?'*



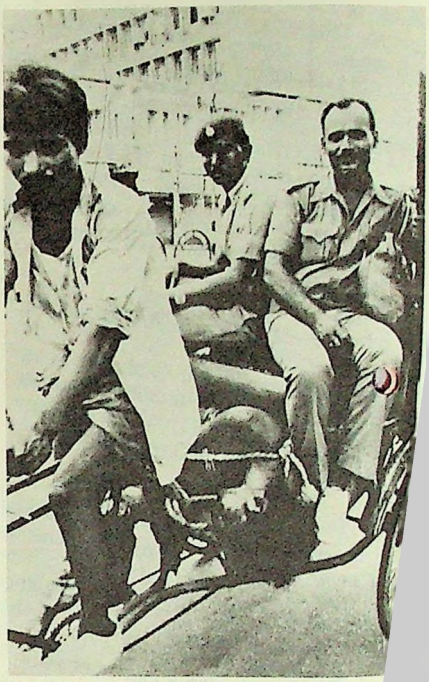
Fr John Vattamattom svd
Managing Director

HEALTH — A SOCIAL JUSTICE ISSUE

HAVE YOU ANY ANSWERS ?



Photographs by Lallan Kumar from Patna

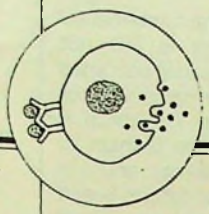


The man tied up and dumped on the footboard of the cycle rickshaw is an alleged criminal, being shifted from Barh, a subdivisional town near Patna to the Patna Medical College for treatment.

The Illustrated Weekly of India, in its issue of July 2-8, 1989 used these pictures in the editor's page in place of their usual recommendations. The pertinent question raised was will some civil rights body take up this case? Or will we all remain as callous as usual waiting for someone else to act ?

HEALTH ACTION brings you a reprint of these photographs seeking your active involvement in this social justice issue. Naked, tortured and trussed uplike an animal being carted to the slaughter house — this is a brother — a fellow human. With brotherhood as the acknowledged norm and with the ultimate fatherhood of God are we not made in His image? Even animal lovers weep at the sight of sheep carried to slaughter. ***Should we not then be more concerned when man turns against man? Turn not your hearts or emotions away — send us your answers? Where are we heading?***

M LEO RAJ



Understanding Allergy

Dr Om Prakash Consulting Physician

In 1902, two French Scientists injected pigeons with a small amount of extract from the tentacles of a sea creature. Nothing happened. A week later, they repeated the procedure in the same way, and watched, in surprise as the pigeons developed severe reactions. The pigeons had somehow become sensitive to the formerly harmless substance. The scientists had discovered **Allergy.**

The word allergy itself was coined by Von Pinquet, a pediatrician. He meant by this term, *altered reactivity,* i.e., the phenomenon in which *a generally harmless substance causes certain harmful effects in a small proportion of the population.* In the decades that followed the initial experiments, we have understood a great deal more about the mechanisms and manifestations of allergic diseases. Allergy affects millions of people all over the world. It is estimated that almost 10 percent of the general population suffer from some form of allergy during their lifetime. Ironically, allergy results from disordered working of the immune system. This system is a complex one which exists in man to protect him from infections.

The Immune System:

Allergy occurs because of an error in education. Normally, the human body learns to defend itself against invading organisms such as microbes and remembering the nature of these enemies. Medical science has taken advantage of this by way of vaccinations against many common infectious agents. These vaccinations give rise to immunity. Allergic reactions occur when the immune system mistakenly learns to recognise innocent and innocuous foreign substances *as potentially harmful.* These substances are called *Allergens.* Among the common allergens are pollens, molds, animal danders, house dust, and dust mite. Certain foods can cause allergies. We can come into contact with allergens in different ways: by inhalation, by skin contact, or by ingestion. Allergic reactions can often get aggravated by climatic changes.

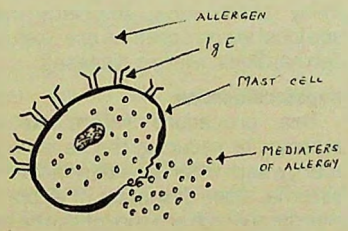
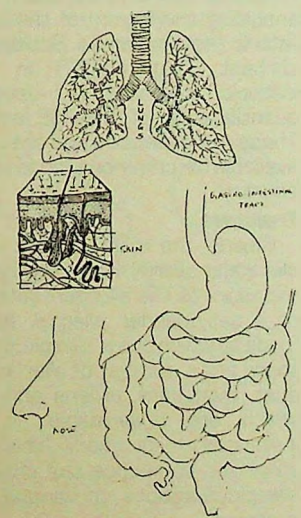


FIG 1. THE ALLERGIC REACTION

A component of the immune system which plays a central role in allergy is the *Antibody,* a 'scout' molecule whose function is to identify foreign invaders so that the defence system can be activated with speed. These antibodies are produced by a class of the white blood cells called the *B Lymphocytes;* these B cells are in turn regulated by other cells, the *T Lymphocytes.* Central to the theme of allergy is the over production of antibodies called *Immunoglobulin E* (Ig E) antibodies. Because of some genetic factor, allergic people produce large amounts of IgE antibodies to commonly encountered allergens and over a period of time become clinically allergic. In an allergic person, the specific IgE molecules to a particular allergen get attached to cells called *Mast Cells:* the mast cells contain chemicals known as mediators, which when released into the tissues can cause the familiar manifestations of allergy such as sneezing, stuffy nose, wheezing, urticaria, etc.

Any organ system can be involved in the allergic process; those most commonly involved are the skin, the lungs, the nose and the gastro-intestinal tract. Skin manifestations of allergy are eczema, urticaria, intense itching on the skin, contact dermatitis and some drug reactions. Allergic rhinitis refers to the common stuffy nose, sneezing, watery nose etc which affects large number of people. Bronchial asthma has allergic component in certain proportion of asthmatics and these persons suffer as a consequence. Food allergy can cause symptoms such as colic, diarrhoea and vomiting. Some children suffer from allergic eye trouble and need attention.



Diagnosis

Clinicians take detailed history to pinpoint the possible allergens. Circumstantial evidence often points the way. Allergy skin tests are performed to detect the presence of allergy. Essentially, skin tests are carried out to detect the presence of IgE antibodies in the person's system to specific allergies. In prick tests, a small amount of the allergen is placed on the surface of the skin (forearm or back) and the skin pricked lightly with a fine needle. In about 15 minutes, a *wheal* (temporary red or pale raised area of the skin) and *flare* will form at the site if the person is allergic and has abundant IgE antibody to that particular allergen. In the case of foods, elimination and rechallenge testing is often used.

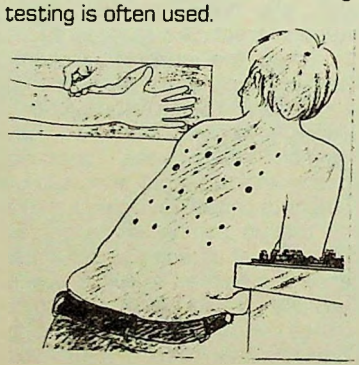


FIG. 2 ALLERGY SKIN TEST

Allergy can also be detected by analysing the serum of the patient with a test known as Radioallergosorbent Test (RAST) in which isotopic method is used for quantification of the IgE antibody. These are expensive and are not yet available for common allergens in our country.

Treatment

Clearly, the most obvious way to eliminate allergy is to totally avoid exposure to the allergen: getting rid of a cat (dander allergy), avoiding foods to which one is allergic, etc. But there are a number of allergens like dust, dust-mite, pollens and molds which are unavoidable. In such instances, medications have to be employed to reduce the effects of allergic reactions on various organ systems.

In rhinitis, (inflammation of the mucus membrane of the nose) antihistamines and decongestant nasal drops are used commonly. In recent years, antihistamines have been available which do not cause drowsiness, a major side effect of many antihistamine drugs. Use of a drug called Disodium Cromoglycate, in the form of nasal spray or drops, is also very useful in controlling rhinitis. More recently, a medication which is topically active called Beclomethasone has been used with success in cases of allergic rhinitis. This is a locally acting steroid, devoid of systemic side effects of cortisone medications.

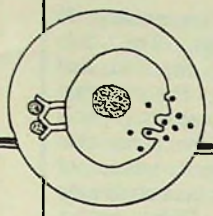
In bronchial asthma, antihistamines have hardly any role. The medications used in asthma are bronchodilators, both oral and inhaled. These afford symptomatic relief. Both Disodium cromoglycate and Beclomethasone are of great use in many asthmatics. Antihistamines and local steroid creams are useful in dermatologic allergic diseases.

Hyposensitisation

This procedure refers to an attempt at reducing the severity of allergy, with reference to rhinitis and asthma; after detection of airborne allergens which are thought to be the major allergens, injections of very gradually increasing concentrations of allergens are administered over a prolonged period. These injections cause increasing production of 'protective' antibodies (specific IgE and IgM) which act as 'blocking' antibodies and reduce the effects of allergen entry on subsequent exposures. Further, the treatment makes the tissues more resistant to release chemical mediators which bring about the clinical manifestations. It is also noted that over a period of time, this treatment helps by lessening the production of specific IgE antibodies. Hyposensitisation has no role in food allergy. It is useful in insect venom allergy, which can be serious and occasionally life-threatening.

Unanswered Questions

Major questions remain to be answered adequately, despite decades of research. The fundamental mechanism of allergy is still not known. Why an individual becomes sensitive to some allergens and not to others is not clear. Research is going on in an intensive fashion to unravel the basis of allergy, and it is hoped that in the near future, break throughs may be occurring which will have important beneficial effects for the millions of sufferers from allergies. ■



Skin Allergies

Dr S C Rajendran MBBS, DVD MD

Definition of Allergy:

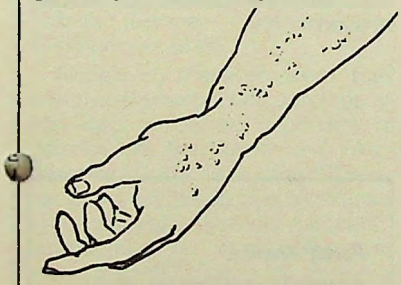
When a substance, not harmful in itself, causes an immune reaction which causes nothing but misery.

There are various types of skin allergies. The common ones we come across in day-to-day life are:

1 Urticarias & angioedemas
2 Eczemas, atopic dermatitis
3 Drug allergies
4 Allergic contact Dermatitis
5 Allergy due to insect bites

Urticaria (Nettle rash or hives)

It is a raised erythematous (reddish) skin lesion that is markedly pruritic (itchy), tends to be evanescent in any one location and generally worsens by scratching.



Urticaria has been called a vexing problem in terms of etiology, mechanism involved and clinical management. The vexing problem remains for the clinician.

Urticaria is caused by release of histamine from the mast cells and causes itching and increased vascular permeability (having pores or openings that permit liquid or gases to pass through). Histamine is the principal mediator of urticaria, although other mediators may possibly be i

e results from uli acting via immunological and nonimmunological path ways. The commonest stimuli are:-

1 Physical stimuli

Traumatically induced, most commonly Dermographism (a condition in which pressure or friction on the skin gives rise to a transient raised, usually reddish mark so that a word traced on the skin becomes visible);

2 Inhalant allergens

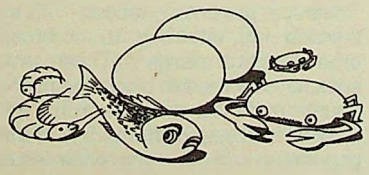
Sometimes can provide skin symptoms;

3 Contact allergens

Minute skin trauma and direct allergen contact (lying on a grass lawn, playing with a dog) can induce contact urticaria;

4 Food and food additives

Are common causes of urticaria especially sea food, fish, berries, egg, nuts and chocolates. It is often IgE mediated reaction, histamine releasing agents, eg: straw berries,



tomatoes, white of egg and free histamine food (eg: tuna fish, mackarel, old cheese) can sometimes be implicated. Food dyes and preservatives such as Tartrazine and Benzoate derivatives can induce urticaria.

5 Plants & insects

Plants like mettles cause histamine release and urticaria by a direct effect on mast cells. An immediate reaction to insect stings is also caused by histamine liberation to insect proteins in the venom.

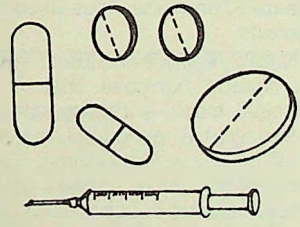
Leeches and jelly fish induce urticaria by toxins.

6 Parasites

Itch and urticaria are frequent symptoms of worm infestations, associated with IgE antibodies to parasitic antigen.

7 Drugs

Many drugs produce allergies. Penicillins commonly produce a anaphylactic (immediate) allergic



reaction. Aspirin and Indomethacin employ nonimmune mechanism involving arachidonic acid metabolism. Many therapeutic and diagnostic agents can release histamine by direct action on mast cells, eg: Morphine, codeine, polymysin, tubocurarine and radio-contrast media.

8 Infections
Acute viral infections are occasionally associated with urticaria.

9 Autoimmune diseases
Vasculities (inflammation of a blood or nymph vessel) in Systemic lupus erythematos can present with urticaria like eruption.

10 Malignant disease
Lymphomas and other tumours can be associated with itching and urticarial eruptions.

11 Solar urticaria
Rarely urticarias may be due to exposure to light, called 'Solar' Urticaria depending upon the wave length of light that induces urticarial lessions.

12 Cholinergic urticaria
Sometimes urticaria can be induced after heat exposure or sweating (hot bath, vigorous exercise, fever & anxiety).

Treatment

Urticaria commonly affects about 20% of population at sometime in their life.

Drug therapy is the main form of treatment for urticaria and angioedema (an allergic skin disease characterised by patches of a disorder characterised by skin inflammation) circumscribed swelling involving the skin, its subcutaneous layers, the mucous membranes, and sometimes the viscera. For most urticaria patients 3 types of drugs are used to obtain symptomatic control:- 1) Sympathetomimetic agents 2) antihistamines 3) corticosteroids.

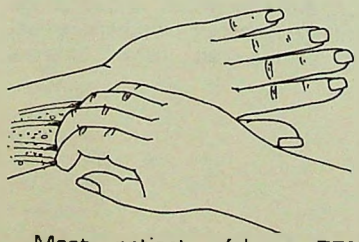
Notably epinephrine (basic sympathomimetic harmone that is the principal blood — raising harmone (adrenaline) & ephedrine (used for relief or hay fever, asthma, E'nasal congestion) have alpha – agonist properties that cause vasoconstriction (narrowing of the lumen of blood vessels) in superficial cutaneous and mucosal surfaces directly opposing the effects of histamine on these end organs.

Antihistamines (H1 blockers) are used in most cases of urticaria. They are competitive inhibitors of histamine, reducing the end organ effect of histamine even if histamine release continue. Numerous antihistamines are available, some with multiple drug effects. The main side effect sedation which limits its usage.

Corticosteroids such as oral prednisolone may be necessary in management of urticaria; because of their potential long term side effects they should be used chronically only after a demonstrated failure of high dosage of antihistamines and sympathetomimetic drugs. Short term prednisolone has limited side effects and is often useful in treating urticaria not responsive to antihistamines and ephedrine.

Atopic Dermatitis

It is largely a disease of children. It is chronic, relapsing, characterised by extreme itching and persistent scratching. Initially the lesion is exudative, ultimately becoming dry and lichenified. (skin becomes hardened and leathery). The disease usually starts in infants or children with a family history of atopic dermatitis, allergic rhinitis and/or asthma.



Most patients (about 75%) develop IgE antibody to common environmental allergens. These patients have increased blood eosinophil count and increased serum IgE levels. The disease affects 5% of the population and its importance lies in its long term morbidity.

It usually starts on cheeks and spreads to the trunk and flexural surface of arms and legs. Papules, vesicles and exudation predominate. Itching is intense and the infant is unhappy.

In children, lesions are localised to the flexor surfaces. The skin becomes lichenified, fissured and excoriated (chaffing of the skin) due to scratching. The course is chronic and recurrent, with bacterial skin infection as frequent cause of exacerbation. The disease continues into adult life in 25% cases. Diagnosis is based on history and physical examination. In a typical case, it can be supported by laboratory tests.

Treatment

Wollen clothes and frequent use of soap water increase itching and therefore should be avoided. Scratching at night can be reduced by giving infants cotton mitten and children a sedative antihistamine; daily use of moisturisers is needed.

Currently the most successful agents are topical corticosteroids, but the usefulness is limited by the local adverse effects. The low potency local hydrocortisone is used for maintenance therapy and occasional use in sensitive areas.

Tar preparations have an anti-inflammatory activity without the risk of long term side effects, and can be used.

Pertly Precise:

Luxury: *Something you don't need and can't do without.*

Spinach: *An expensive source of sand.*

Auctioneer: *The man who proclaims with a hammer that he has picked a pocket with his tongue.*

Hard times: *A season during which it is very difficult to borrow money to buy things you don't need.*

Grandparent: *Something so simple a child can operate it.*

Drug eruptions

Systemically administered drugs can produce a number of morphologically distinct cutaneous symptoms which include well defined, variable, temporal relationship with the ingestion of drugs. Macular , maculopapular lesions and urticaria are the most common undesirable effects caused by drugs. Usually these symptoms are not serious and disappear spontaneously within a few days or weeks. However, the potential for a severe complication is there so that even mild cases deserve full attention.

Eruptions caused by a sensitivity reaction to a given drug are not limited to one type of lesion and can reveal a great variability. One group of patients may respond to a drug with papular eruption, while the other groups with a morbiliform (resembling the eruption of measles) rash. The nature of eruption by itself does not permit the identification of the offending medication.

Drug eruption can consist of pinhead in an erythematous (reddish) area or it can be a raised flat reddish papule. It can sometimes present like Rubella (German measles) called Rubiliform eruption.

Along with these eruptions they will have a few important accompanying signs which are important to differentiate from other viral infections like (1) pruritis (itching) (2) fever (drugs like cephalosporins, nitrofurantoins, salicylates, phenobarbitone) (3) eosinophilia, i.e. eosinophil count more than 400/cmm (4) transient lymphadenopathy (enlarged lymph nodes) caused by phenylbutazone or oxyphenbutazone. In practice the above mentioned eruptions are seen most frequently after administration of penicillin, ampicillin, sulfonomides and antiepileptic drugs.

On occasions they may be severe and even life-threatening drug eruptions. eg: Exfoliative (the peeling of the horny layer of the skin) dermatitis, Steven Johnson Syndrome (a severe and sometimes fatal form of erythema), Toxic epidermo-necrolysis (a skin disorder charactered by widespread erythema). Further, an innocent looking eruption may progress to more disturbing one if the cause is not recognised and the drug is continued. Unfortunately the appearance of drug eruption is not characteristic enough to implicate the drug as the most likely cause. However, some eruptions are characteristic enough to suggest a drug etiology, eg. Fixed Drug Eruption most often caused by phenophthalein, sulfonamides, tetracyclins. Here the term fixed refers to the recurrance of eruption at the same site, each time the offending drug is administered. The characteristic lesion is well delineated oval or round, of size from few mm to few cm. Edema appears initially followed by erythema and darkness to produce black or brown lesion. Mucous membrane involvement particularly of oral mucous and penis have occasionally been observed.

Rarely drug eruptions can get aggravated due to sunlight or artificial light (tube light). The eruption is limited to areas which are exposed to light eg: face, V-area of the neck, dorsum of hands. The condition is called photo-sensitivity reaction. The drugs responsible for this are phenothiazines, sulfonamides, diuretics and oral antidiabetic agents.

Treatment

In most cases of macular and maculopapular drug eruptions without extracutaneous symptoms, there is no need for systemic or local treatment.

In severe cases of drug reaction the offending drug should be stopped immediately. An antihistamine is more than enough to control pruritis. Systemic corticosteroid therapy may be indicated if there are pronounced extracutaneous symptoms like drug fever, arthralgia or severe cutaneous manifestations like exfoliation Steven Johnson syndrome and Toxic Epidermonecrolysis.

Treatment is usually not required in the cases of fixed drug eruption, because most are mild and not associated with significant symptoms, but the drug will have to be discontinued. However, topical or systemic corticosteroids are required for more severe reactions.

Allergic contact dermatitis

A skin condition commonly seen is allergic contact dermatitis. With new chemical sensitizers being introduced into our environment, undoubtedly we will be seeing more instances of this disease. Contact dermatitis is the most common occupational disease and is of tremendous importance to both individual and society. Diagnosing allergic contact dermatitis, especially eliciting the cause requires all the patience, thoroughness and acumen of the physician.

Contact allergens almost invariably are small molecular substances that reach the skin upon contact with the environment. Because of their small size they penetrate the skin barrier, which is relatively impermeable under normal circumstances to large molecules and reach the lining layers of the skin. In order to induce contact allergy these substances must be presented by antigen-presenting cells, principally epidermal Langhans cells, to T lymphocytes in an immunologically effective processed form. The effector cells, which mediate allergic contact hypersensitivity are descendents of these T lymphocytes.

The common contact allergies can occur in day-to-day life due to plants, vegetables, fruits, wearing apparels,

We know him

All through the football game, on every single play, the loyal rooter had cheered his team to victory. Hoarser and hoarser he grew, until finally he whispered to the man beside him, 'What d'ya know — I've lost my voice'.

'Don't worry', was the tart reply, 'you'll find it in my left ear'.

jewellary, cosmetics, drugs used for topical use and industrial agents. The person may present with clinical features consisting of scaling, vescicles, papulovescicles, and exudation (oozing out) at the site of contact agent. The manifestation generally starts within 24 hours, but in milder cases, they may be delayed for 2-3 days or even longer. Contact dermatitis continues to worsen so long as the contact with the antigen continues, but once further exposure to antigen stops, it tends to subside even without any treatment. The diagnosis of contact dermatitis can be confirmed by clinical correlation with an accurate history that the exposure to the agent leads to recurrence of the dermatitis and preventing further exposure leads to regression. The cause of the contact dermatitis can be easily confirmed by patch test.

Partheneum is a common cause in contact dermatitis. Usually it takes some time (even many years) for a person to develop allergy after coming in contact with partheneum. One of the major symptoms associated with partheneum skin allergy is itching, and skin eruptions.

Other substances include hairdye, ornaments (nickel) shoes (leather) and bindi in women, which commonly cause contact allergic dermatitis.

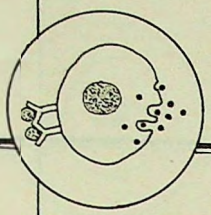
Treatment

Avoidance of offending agent is the mainstay of treatment. A mild tropical steroid is helpful to alleviate symptoms.

Allergies to insect bites

Insect bites as the cause of allergy was suspected centuries ago. It is usually seen in children commonly due to bites of flees, bedbugs, mosquitoes and dog louse. The eruptions consist of wheal or a firm papule and rarely bullae (a large vesicle or blister) especially on exposed parts, with itching. It is due to hypersensitivity reactions to insect antigens. The attack may persist for 3-4 years perenneally or recur seasonally.

Management consists of use of insect repellants and use of topical corticosteroids. ■



Urticaria

Dr K R Antony MBBS DCH DTCH (Liverpool)

During this summer season a number of children were brought to me by anxious mothers with the complaints of itching all over the child's body.

A child playing and walking around normally in the house suddenly becomes irritable, cranky and starts scratching his body all over. Patchy areas of skin surface swell up with reddish edges and pale centre. The face is flushed. Older children will say that a feeling of warmth spreads all over the body. Some may double up with abdominal pain. By the time they decide to go to a doctor everything disappears to the great surprise of the worried parents. But this doesn't last long. There can be many recurrences of these transient symptoms. Well, this is **Urticaria.**

What causes Urticaria?

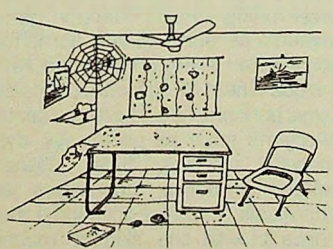
A number of children brought to me last summer had Pyoderma or boils on the legs, hands and scalp as the primary foci of infection. This bacterial infection sensitizes the body to show an allergic reaction. Staphylococci and Streptococci are common bacteria that cause Pyoderma and when Pyoderma is left untreated or partially treated, many get urticaria. Bacterial infections of throat, (Pharyngitis, tonsillitis) tooth, middle ear etc, also precipitate an urticarial attack.

Many viral infections also give rise to secondary urticaria and this may be seasonal.

When we take a detailed history of these cases very often the patient comes out with the fact that he had taken some new drugs which he is not familiar with. Many drugs, vaccines, toxoids and hormone preparations precipitate urticaria in the susceptibles.

Another cause of urticaria that can be diagnosed by history, is food allergy. Some unfamiliar food that has been consumed within a day or two will give rise to generalised itching, abdominal cramps and loose stools. Notorious for this phenomena are eggs, wheat, chocolate, prawns, crabs, nuts, cocoa and some food dyes and additives.

An intelligent mother can always arrive at this diagnosis by sheer common sense and will tell the doctor that everytime a particular food was given the child had this problem. The role of the doctor here is to reconfirm the diagnosis and emphasize on elimination of such foods for quite sometime. It is often noticed that a boy who is allergic to a particular type of meat, say beef, after 2 to 3 years when he again consumes beef this urticarial phenomena does not occur. By some unknown reason that allergic process ceases to occur.



Some children develop urticaria on going to store rooms, unused rooms, lofts where a lot of allergic dust and molds are present. Some sprays and inhalants also cause urticaria. During certain seasons when children play in the garden they develop urticaria and the cause may be due to certain pollens from seasonal flowers. Some variety of trees in the forests cause severe oozing dermatitis and allergic rashes which require prompt medical treatment.

Insect bites, especially mosquitoes, fleas, mites cause multiple small raised rashes which persist for many days and can get secondarily infected by bacteria when the patient scratches. Doctors call it Papular urticaria.

Physical factors like cold, heat, pressure etc also cause urticaria. Flora is a staff nurse who worked with me. But she gets severe rashes on having a cold shower bath or going in an autorickshaw or moped, when the wind is very chilly — This is cold urticaria.

One important cause of urticaria among rural children is Intestinal parasites. Round worms, pin worms & hook worms are the common important parasites that cause urticaria, if not treated on time.

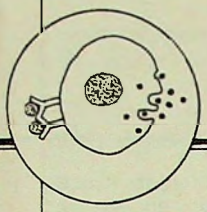
Management of Urticaria:

Management of urticaria can be made easier with the cooperation of parents who are aware. Parents will know better than the doctor which are the foods to be avoided, places to be stayed away from and plants and flowers to exclude from the garden. It is the responsibility of the parent to warn the doctor about the drugs which the child is allergic to. Mothers should take extra care and see that the child is not bitten by troublesome insects by use of mosquito nets, insect repellants etc.

Physical factors which cause urticaria should be avoided as far as possible in homes, schools and playgrounds. The Doctor will help you to diagnose whether a bacterial or viral infection is the cause of urticaria and if required how to treat it.

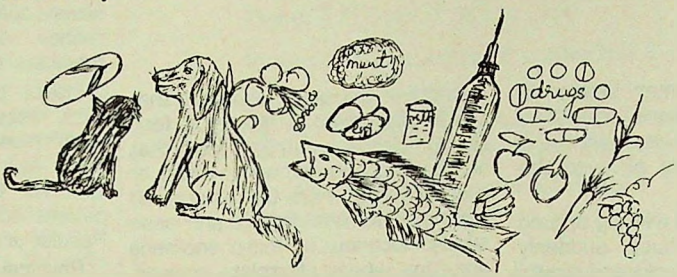
The Doctor might also ask for a stool examination to see whether

See page 25



Learn to live with Allergy

Dr Sr Placida Vally



The term allergy includes all types of reactions of hypersensitiveness. Allergies represent the abnormal reaction of an individual to the foods he eats, the air he breathes or the substances he touches. Allergy is the body's response to the presence of same aggravating agent called an *allergen*. These allergens are all around us. Fur, pollen, dust, etc. are examples of allergens. When the individuals inhale these allergens, the body induces the production of certain substances called antibodies. Antibodies are formed when germs invade the body or any foreign proteins introduced into the tissues. They are part of the body's natural immunity system. Antigen is a substance that stimulates the production of antibodies, common antigens are, viruses, bacteria, pollen dust, fur, etc.

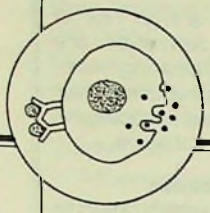
Antigen and antibodies when they unite in specific organs like skin, nose, lungs etc. the body's defense mechanism overreacts — as a result certain chemical substances such as histamine and serotonin are released. These chemicals are responsible for the allergic manifestations of dermatitis, hay fever and asthma respectively. In an allergic reaction histamines escape from the body cells, producing inflammation and irritation also cause a flow of mucus in the lungs and nasal passages, resembling like a person having a very bad cold.

Potentially every individual can become allergic. In fact 12 to 14 percent of the population of India suffer from mild to severe allergies. Heredity as well as psychological state of the individual may play an important role in allergic disorders. Allergies that occur in any period of life may depend on where one lives how much of it one is exposed to and for how long.

Allergens that cause hypersensitiveness in certain individuals are quite harmless to non-allergic people. There are many allergens and their responses also vary. Some allergens such as pollens, dust, vapours, tobacco smoke, strong odours of perfume etc. enter the body after being inhaled. Certain germs invade a person's tissue, some food provoke an allergic response which include wheat, milk, fruits, chocolate, eggs, pork and fish. There are certain allergens such as poison ivy, dyes, metals, plastics, furs, leathers, rubber products, cosmetics and chemicals response through a mere contact with the skin or mucous membrane of a sensitive person. Physical agents such as heat, cold, light and pressure may cause an allergic response. Hay fever begins with intense itching of the nose and throat, tears gather in the eyes and watery discharge from the nose which is accompanied by violent sneezing, headache, irritability, sleeplessness and gastric upsets.

There are many ways to prevent the allergic symptoms. The general health and resistance power of the body should be built up to establish immunity. Prevent the allergens to which a person is sensitive from entering his body. The persons who are suffering from Hay fever, should stay indoors or stay away from the locality; avoid drug or food from cliet persons who are allergic to drug or food. Take organic, untreated unprocessed food by which you can eliminate pesticides, various sprays, other poisons that may cause allergy in persons. A person can be relieved of the allergy by desensitization treatment. The use of anti-histamine drugs found relief in some cases of allergy but it may not be successful in all cases. The use of steroid harmones derived from the cortex of the adrenal gland may provide some help in cases of serious allergic reactions.

The consumption of the alkaline-forming foods is essential for those suffering from allergies. Allergic persons should be excluded from their diet, today's processed foods loaded with numerous chemicals which cause powerful reactions. Relaxation, exercise, meditation etc will reduce or remove stress element that is present in allergic conditions. The best way to overcome allergies is to strengthen the overall physical resistance power of the body. ■



Therapy of Eczema

Dr Yogesh S Marfatia

The word Eczema is derived from the Greek word *"ekzein"* meaning "to boil out" or "to effervesce".

It is a pruritic papulovesicular process. Its acute phase is associated with redness and swelling which in its chronic phase, while retaining some of its papulovesicular features, is dominated by thickening lichenification (meaning accentuation of normal skin markings, so that affected skin surface resembles tree bark or leather).

Classification of Eczema

Exogenous (Exterior)

1 Irritant dermatitis
2 Allergic Contact dermatitis
3 Infective dermatitis
4 Photo-allergic Contact dermatitis
5 Eczematous polymorphic light eruption
6 Eczematous dermatophytosis
7 Dermatophytide

Endogenous (Interior)

1 Atopic
2 Asteatotic (Xerotic)
3 Nummular
4 Gravitational
5 Pompholyx

Eczema accounts for a very large proportion of all skin diseases. Out of 100 patients with skin diseases, 20 to 30 suffer from one or other form of eczema.

Endogenous Eczemas

The term endogenous eczema implies that the cause or origin of the eczematous condition is not due to external environmental factors but mediated by processes originating within the body.

The most important example is 'Atopic dermatitis'.

Atopic Dermatitis (Atopic eczema)

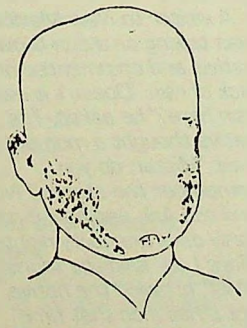
Atopy is a genetically determined disorder in which there is an increased liability to form IgE (reagin) antibodies and an increased susceptibility to certain diseases, especially asthma, hay fever, and atopic dermatitis, in which such antibodies may play some role. Atopic dermatitis is the characteristic clinical type of dermatitis usually associated with atopy. It may be divided into 3 stages:

1 Infantile, occurring from 2 months to 2 years of age.
2 Childhood, from 2 to 10 years.
3 Adolescent and adult stage.

The main symptom is severe *itching*. It is said that in atopic dermatitis, it is *"an itch that rashes rather than a rash that itches"*. This is a chronic fluctuating condition.

1 Infantile Eczema (Infantile Atopic Dermatitis):

Age of onset is between 2 and 6 months in majority of cases. Onset before 2 months is exceptional because coordinated scratching does not occur before this time.



Infantile Eczema

Sites: Cheecks are the commonest site; scalp, neck, forehead, wrist and extremities may be involved.

Moist type is very common. In dry type, there is an excessive dryness and xerosis that predisposes to eczematization. Popliteal (and or of relating to the back part of the leg behind the knee joint) and fossae are commonly involved (antecubital area of the right arm).

Exacerbations are observed after vaccination, teething, respiratory infections and emotional upsets. Food may sometimes play role in early infantile eczema. Common offending substances are egg white, wheat, milk and orange. Less than half the cases clear up by the age of 18 months and in remainder the pattern changes into that of the childhood phase.

2 Childhood eczema:

Classic locations are the antecubital and popliteal spaces, the wrists, eyelids, face and neck. The constant feature is pruritus leading to scratching of skin which in turn results in thickening and lichenification of skin. The condition is less acute and less exudative but more

chronic and more dry type. There is an increase in sensitization to wool, cat's hair, dog's hair and pollens.

3 Adult phase:

The picture is essentially similar to that in later childhood with severe itching and lichenification especially of the flexures (anatomical turn, bend or fold) and hands. Housewives with hand eczema are frequently atopic individuals. Itching usually occurs in paroxysms and is typically absent in between emotional upsets. Sweat retention makes it worse. A characteristic psychosomatic relationship is present in many atopics.

The other triggering factors may be skin dryness, wool irritation, clothing and perhaps food. Atopic dermatitis becomes less severe as the patient grows older and is rare after middle age.

Points to remember for diagnosis:

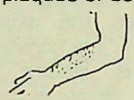
1 History of severe itching followed by appearance of dermatitis in preferred locations, family history of asthma, hay fever or eczema.

2 Asteatotic eczema/Xerotic eczema/ Winter itch:

Seen typically in elderly in winter. Most frequently it occurs on the extremities, especially on the shins of elderly. Here, the skin is dehydrated and shows redness, dry scaling and fine crackling.

3 Nummular eczema/Discoid eczema:

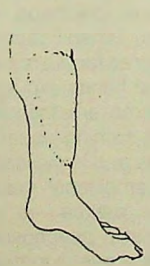
It is characterised by a single, non-specific morphological feature, the coin shaped or discoid configuration of plaques of eczema.



Sites preferred are dorsa (upper surface) of hands, extensor surfaces of extremities, buttocks, breasts and nipples. Changes of acute as well as chronic eczema are seen. Pruritis is usually severe and of paroxysmal compulsive quality. Emotional stress is usually present.

4 Gravitational eczema

This occurs secondary to venous hypertension and an increased perfusion of tissues. The eczema develops suddenly or insidiously, usually on lower part of legs and the patients are commonly middle aged or elderly females. The eczema is usually accompanied by varicose veins, oedema, purpura, (patches of purplish discoloration) hyperpigmentation and ulcers.



Exogenous eczemas

Contact Dermatitis:

Generally there are two types of dermatitis caused by substances coming in contact with the skin.

1 Irritant dermatitis is due to a non-allergic inflammatory reaction of the skin resulting from exposure to an irritating substance. This may be the result of an acute toxic insult to the skin, as with accidental exposure to acids, alkalis etc, or due to repeated and cumulative damage from more marginal irritants, both physical and chemical. No previous exposure is necessary.

Common Irritants:

Alkalis such as soaps, detergents, bleaches, ammonia preparations, drain pipe cleaners, toilet cleansers. acids like

Chlorine, Iodine, Bromine, Fluorine

Insecticide dust and gases, hydrocarbons.

Pretty Dry

A visitor to New Mexico was talking on a sun-browned native, and commented on the lack of rain. 'Doesn't it ever rain here?' he asked. The native thought a moment and said, 'Mister, do you remember the story of Noah and the Ark, and how it rained forty days and forty nights? 'Sure I do,' said the tourist. 'Well', drawled the native, 'we got a half inch that time'.

Occupations with a high risk of cumulative irritant dermatitis are housework, catering, cleaning, nursing, building construction, hair dressing, gardening and horticulture, engineering, motor mechanics.

2 Allergic contact dermatitis:

It is due to allergic sensitization to various substances that produces inflammatory reaction in those and only those, who have acquired hypersensitivity to the allergens as a result of previous exposure to it. It results from a specific acquired hypersensitivity of the delayed type which is also known as 'Cell-mediated-immunity'. Persons may be exposed to allergens for years finally developing hypersensitivity. Occasionally dermatitis may be induced upon a sensitised area of skin when the allergen is taken internally, eg. Antihistaminics, sulfonamide.

Frequent Sensitizers:

Parophenylenediamine, hair dye, rubber, Photodeveloper, Nickel (Coins, Keys, artificial Jewellery, wrist watch, earrings). In fact, we are constantly exposed to nickel and nickel dermatitis is a frequent occurrence, especially among women due to presence of nickel in clothing accessories (hooks, snaps). Rubber compounds — eg. Rubber gloves, girdles, garters, panties, diapers, sheets, condoms, elastics, boots. Dichromates — in cement, dyes, paints, shoe leather. Mercury bichloride present in mercurial remedies eg., mercurochrome and ammoniated mercury. Mercapto-benzothiazole present in rubber products. Terpentine Oil present in paints, thinners, waxes, varnishes, formaldehyde solution used in preparing fabrics.

Other Sensitizers:

Plants, trees, grasses, flowers, vegetables like onion, garlic and fruits like citrous fruits, weeds, etc.

Textile and clothing — Dyes and finishes of fabrics cause dermatitis.

Dermatitis is seen in areas of sweating and friction.

Shoe dermatitis — dichromate rubber, dyes.

Metals like Cobalt (It is combined with nickel as a contaminant)

Arsenic (present in dyes).

Cosmetics:

— Antiperspirants and deodorants.
— Hair dyes, bleaches, sprays, depilatories.
— Nail Polish, Nailpolish remover
— Lipsticks
— Eye make ups
— Sunscreens
— Depigmenting creams
— Mouth Washes and dentrifrices
— Perfumes

Applied medicaments — Penicillin, Streptomycin

— Sulphonamides, Neomycin, Furacin, Mercurial Compound
— Antihistamine cream
— Local anaesthetic
— Vehicles like lanolin
— Preservatives like panbens/ethylenediamine.

Factors affecting eczema:

In any dermatitis that persists for 2 or 3 weeks, certain secondary factors become operative. They are:

1 *Itching:*

The effects of excoriation and other means used to relieve itching are important in all types of dermatitis and these may vary from simple rubbing of skin to extreme trauma produced in many ways. In addition to mechanical injury, dermatitis is frequently subjected to the irritant and sensitizing effects of topical medication and hot water.

2 *Secondary Infection:*

In an area of skin affected by persistant dermatitis, normal bacterial flora is displaced by coagulase positive S aureus, betahemolytic streptococci, pseudomonas and other bacteria. Fungal infection is common, as are viral diseases such as herpes simplex.

3 *Secondary Contact Dermatitis from applied medication:*

During an attack of acute dermatitis, the skin is highly vulnerable. The stratum corneum which acts as protective barrier is lost and the basal portion of epidermis and even the dermis of subcutaneous tissues, may be easily accessible to substances applied to the surface. Lower parts of legs in older persons are susceptible to allergic contact dermatitis due to age related structural changes in skin. A chemical that has been shown to have a low sensitising index on hundreds of normal skins may show a higher incidence when used on patients with acute dermatitis.

The failure to recognize irritant or sensitization reactions from applied medication is an extremely common error in the management of dermatitis.

Management of eczema

Accurate diagnosis and full assessment of aetiological factors are of prime importance. Properly elicited history helps a lot in diagnosis.

History:

1 Household remedies modify clinical features.
2 Use of over-the-counter medicinal products containing salicylic acid in high concentration. Vigorous rubbing of such medicaments leads to chronic dermatitis.
3 Occupation in detail.
4 Hobbies such as painting, gardening, etc.
5 History of atopic tendency is very important.

Avoid contact with known irritant/ sensitizer.

Drug therapy:

Systemic —
Steroids,
Antibiotics
Antihistaminics

Topical —
Plain Steroid
Combination
others.

Principles of treatment:

Acute eczema

+ Topical application should be bland, i.e. without medication.
+ Wet dressing in the form of Pot assium Permanganate Soaks is excellent. It is antiseptic also. Just 1 to 2 crystals in a bowl of warm water may be sufficient. Its major advantage is that it is cheap but it causes staining and sometimes irritation.
— Aqueous cream and zinc cream are soothing and valuable.
— Moderate potency steroid, steroid + antibacterial combination (in non-greasy base). Avoid ointments which have greasy base. Oral sedative/hypnotic agent may be given if needed.
— Extensive eczema may require treatment with systemic steroid/ anti-bacterial/antihistaminic agents.

Subacute eczema — If acute eczema fails to clear in 3-4 weeks, carefully seek for perpetuating factors, like exposure to sensitizer.

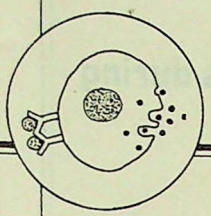
— Intolerance to treatment.
— Inadequate or improper treatment.
— Use of domestic remedies instead of proper treatment.
— Continuous severe itching after starting treatment may be due to continuous emotional stress.

In such cases of subacute eczema, local application of Cream/ointment/ paste/Ichthamol/tar/salicylic acid may help.

Topical Therapy — Principles

	Agent	Acute	Subacute	Chronic
1	Wet dressings	++	±	—
2	Creams, lotions	++	+	±
3	Paste	—	+	++
4	Emollients	—	±	+
5	Corticosteroids	—	++	+
6	Tar, ichthammol	—	±	++
7	Polythelene occlusion	—	+	++
8	Intralesional	—	±	++
9	Sedation, rest	++	+	+
10	Psychotherapy	+	±	++
11	Rehabilitation	—	±	+

See page 27



Bronchial Asthma

Dr Sandhya Nanjundiah Chest Physician

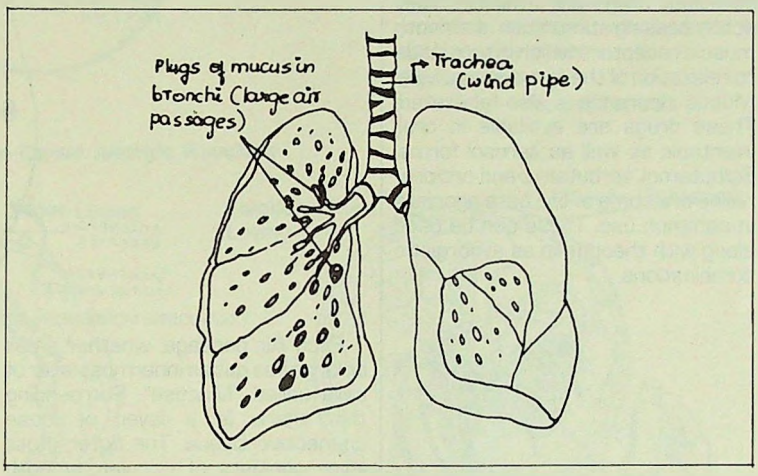
Bronchial asthma is a common disease, and causes considerable suffering. It is estimated that between 2 to 5 percent of the population suffers from asthma. In our country, social stigma is attached to the diagnosis of asthma, and asthma tends to get under-diagnosed. Other terms like allergic bronchitis, wheezy bronchitis, allergic bronchospasm etc are used by clinicians as an acceptable substitute for asthma. When diagnosed promptly and treated optimally, asthma is a manageable disorder.

What is asthma?

The essential feature of asthma is *episodic difficulty in breathing, generally associated with wheezing and cough.* The main defect in asthma is episodes of narrowing of the airways which causes the symptoms. The airways in an asthmatic are very irritable and go into spasm at the slightest stimulation, be it mechanical, chemical or otherwise. These stimuli cause airway narrowing through the nervous mechanism as well as by liberation of chemicals called mediators. Histamine, serotonin, leucotrienes and other chemicals are powerful agents capable of causing spasm of the smooth muscle in the bronchioles. Other factors which cause narrowing of the bronchi and bronchioles are oedema (swelling) of the mucous membranes as well as the accumulation of the bronchial secretions in the interior of the airways.

Clinical features of asthma:

Most commonly, patients with asthma complain of breathlessness, cough, wheezing and chest tightness as well as choking. Cough is usual and moderate amounts of sputum are produced. The sputum is thick and sticky, and if yellow, suggests bacterial infection. The symptoms of asthma are worse at night, and physical exertion worsens it. Broadly speaking asthma can be seasonal, restricted to certain months of the year, or perennial. In the former type, allergic factors due to seasonal pollens and molds etc can be suspected. In allergic subjects, other features of allergy like nasal symptoms (rhinitis), skin lesions and eye manifestations can be present.



Examination of the patient while he is well may not reveal any signs. In mild asthma, signs of airway narrowing in the form of rhonchi (high sounds due to air movement in bronchi) may be heard. During acute attacks of asthma, the patient is in distress, with marked difficulty in breathing, wheezing sounds and excessive contraction of the neck and abdominal muscles. The pulse rate increases, along with the blood pressure.

Objective measurement of the degree of airways obstruction can be made with a *spirometer*, which measures the volume of air exhaled as well as the flow rate. A simpler device called the *peak flow meter* is often used to quickly assess the degree of severity of asthma.

Severe asthma is associated with reduction in blood levels of oxygen and may be life threatening, unless promptly treated. Such cases need hospitalisation.

Treatment of asthma:

The treatment of asthma is generally with three classes of drugs: 1) Theophyllin 2) Beta agonists, and 3) Corticosteroids.

1. Theophyllin: Theophyllin preparations are widely used in both chronic asthma and in acute exacerbations. Theophyllin acts by relaxation of the airway smooth muscle as well as by reducing the fatigue of respiratory muscles. In acute situations it is used intravenously, while in more

stable and chronic asthma oral preparations are employed. Oral preparations are available as short as well as long acting ones and the dosage has to be individualised. In centres where serum theophyllin level can be assessed, a level of between 10 and 20 microgrammes per ml has been established to be the safe range.

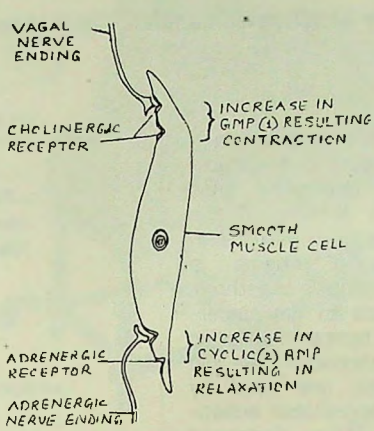
2) Beta agonists: A variety of beta stimulant drugs are available. They act by causing stimulation of smooth muscle receptors which in turn leads to relaxation of the airway narrowing. Mucus clearance is also facilitated. These drugs are available in oral, injectable as well as aerosol forms. Salbutamol, terbutaline and orcipre-naline are some of the beta agonists in common use. These can be used along with theophyllin as synergistic combinations.

Beta agonists are increasingly being used in the inhaled form in asthma. There are advantages in this method, in that only very small doses have to be used and as the drug is directly delivered in the airways, no side effects occur. Beta agonists can also be administered by nebulisers in addition to the metered dose devices.

3. Corticosteroids: These are potent agents which are very useful in asthma. They act by reducing the inflammation in the airways and by other means. Steroids are valuable and lifesaving in acute severe asthma. In chronic asthma, the long term use of steroids is associated with many systemic side effects like

What happens in the Air passages during Asthma

SMOOTH MUSCLE CELL IN THE WALL OF AIR PASSAGES AND RESPONSE OF NERVE ENDINGS ON STIMULATION



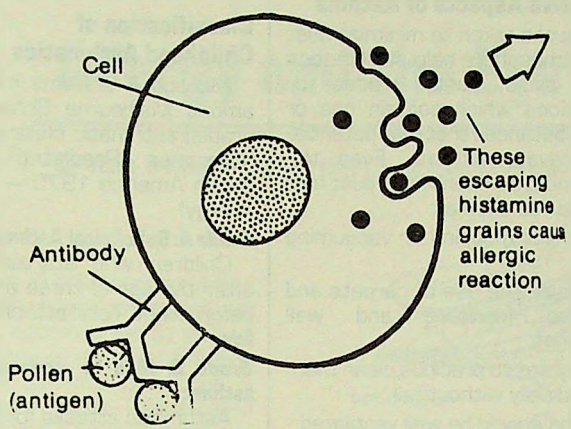
1 GUANOSINE MONOPHOSPHATE 2 ADENOSINE MONOPHOSPHATE

Each Air passage, whether small or large has got an innermost layer of cells called "Mucosa". Surrounding this there is a layer of loose connective tissue. The outer most layer consists of circular, smooth muscle fibres. These smooth muscle fibres are innervated by two different types of nerve endings called 'VAGAL and ADRENERGIC' types which have opposing types of effect on stimulation. See Fig.

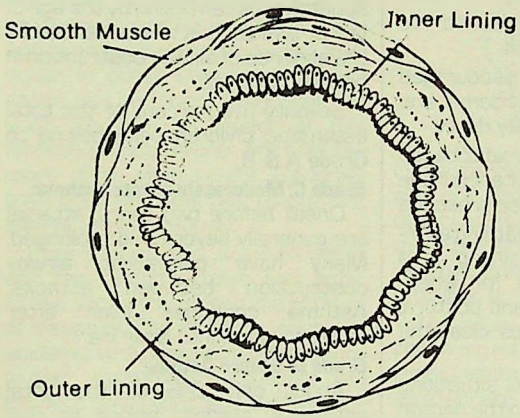
The 'VAGUS' nerve on stimulation stimulates a particular type of receptor on the smooth muscle cells called 'CHOLINERGIC RECEPTOR'. This produces a raise in the cellular level of 'GUANOSINE MONOPHOS-PHATE' (GMP) resulting in contrac-tion of that cell. This contraction in turn reduces the inside diameter and produces narrowing of the air passage.

The opposite takes place on stimulation of the 'ADRENERGIC NERVE ENDING'. The corresponding 'ADRENERGIC RECEPTOR' when stimulated increases the level of cylic 'ADENOSING MONOPHOS-PHATE' (AMP). But unlike GMP when the level of cyclic-AMP increases the smooth muscle relaxes and the inside diameter of air passage also increases.

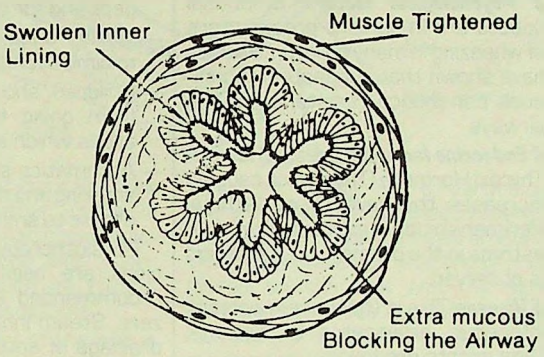
Apart from this action of the nerve-endings on the smooth muscles, there are other immunolo-gical mechanisms that also operate on triggering off an asthmatic attack. A number of chemical mediators released from a sensitised cell called 'Mast' Cells bring about a number of changes on the lining "Mucosal" cells of the air passages. There is swelling (oedema) and inflammation of the lining mucous membrane. There is an increase in the permeability of the blood vessels on the wall of the air passages. This increased vascular permeability of the vessels leads to the leakage of inflammatory blood cells. These Cellular debris and mucus secreted together clog the already narrowed air passages. This reduces the ventilating capacity of the lungs. So, pure oxygen does not enter the blood from the air passages and carbon dioxide in the blood does not get cleared. The patient feels suffocated and the muscles of the chest wall have to make extra effort to tide over the obstruction.



How Pollen Grain Cause Allergic Reaction



Normal Bronchus



Constricted Bronchus During an Attack

A Cross-Section of a Normal and Constricted Bronchial Tube

high blood pressure, peptic ulcers, diabetes and weight gain. A significant development in steroid use in asthma has been the principle of low dose alternate day regimen which allows many steroid dependant asthmatics to be managed with minimal side effects. Another landmark has been the introdution of inhaled steroids (Beclomethasone dipropionate, Flunisolide and Budesonide) which act topically and can be used for long periods with hardly any side effects.

4. Other drugs: Disodium cromoglycate is another drug which has found a place in chronic asthma. This drug acts by minimising the release of chemical mediators and has to be used on a regular basis as a prophylactic medication. It has no role in acute episodes of asthma. This drug is particularly of use in young asthmatics to prevent exercise-induced asthma, which interferes with physical activities. Another newer addition to the asthma therapeutics is inhaled Ipratromium bromide (not yet available in India), which acts by atropine-like action.

Hyposensitisation:

Allergy desensitisation is a procedure in which gradually increasing doses of allergens are injected over a period of time, to induce tolerance in the individual. This works in allergic asthma to some extent, and is more indicated in a small number of allergens which cause allergic rhinitis. ■

Parents please note:

Twenty percent of all children will wheeze at one time or the other during early childhood. Do not get worried as it may be an isolated episode. Please don't label this child as an asthmatic.

Only 5% of children will have recurrent wheezing recognised as asthma.

Seventy five percent of asthmatic children will have their first attack before four to five years of age (pre-school age group).

Problematic children who will be affected severely, will have three factors such as:

- A family history of asthma
- Starting to wheez before the first birthday
- Other allergic manifestations such as allergic skin disorder (Atopic dermatitis), Allergic rhinitis etc.

Some factors in the precipitation of Asthma

1 Environmental: Cold air and changes in climate can trigger off asthmatic attacks. Fumes, dust, dust mite, pollens, danders (minute scales from feathers or animal skin that may cause allergy) precipitates asthma in subjects who have increased antibody, IgE. Sudden increase in atmosphere pollution and tobacco smoke could also worsen asthma.

2 Heredity: It is known that subjects with strong family history of allergy and asthma are more likely to suffer from asthma than persons with no such family history.

3 Psychological factors: Emotional upsets are important precipitators of wheezing in many children. Studies have shown that suggestion techniques can induce resistance of the airways.

4 Endocrine factors: Increased level of Thyroid Hormone (Thyrotoxic causes) increases the severity of asthma. Perimenstrual exacerbation of asthma in the premenopausal period is observed.

5 Viruses: This is the most important infectious provocator of asthma. Viral agents are found-

- to stimulate the receptors of Vagus Nerve in the airways.
- impairs the response of the system to Beta adrenergic hormones and histamines.

Respiratory Syncitial Virus (RSV) and Parainfluenza viruses remain attackers on infants whereas on older children Rhinoviruses are the main culprits (25% asthmatics). Influenza A Virus and Enteroviruses are also isolated less often.

6 Exercise: Physical exertion is a well known factor in the cause of asthma and exercise testing has an established place in the assessment of asthmatics. Exercise induced asthma worsens by

- cold
- mouth breathing

7 Aspirin: Intolerance to aspirin manifests as asthma more often in adults than in children.

Preventive Aspects of Asthma

Measures taken to minimize dust in the atmosphere help. Asthmatics should avoid dusty trades or occupations which contain one or more substances that may potentially aggravate asthma. Even the rooms must be maintained dust free by measures such as:

— Daily wet mopping or vacuuming etc
— Minimize the use of carpets and stuffed furniture and wall hangings.
— If they are so precious,clean them periodically without fail
— Rooms should be well ventilated
— It is better for asthmatics to avoid pets and fur coats
— Walls should be cleaned to minimize fungal growth
— Children should be discouraged from going to storerooms and attics which are usually dusty
— Asthmatics should avoid tobacco smoking and should not encourage others to smoke in their presence

Physiotherapy and breathing exercises are helpful. Swimming is a recommended exercise for wheezers. Steam inhalation and postural drainage of sputum helps clear the air passages.

Avoidance of stressful situations and emotional support to the person will allay many attacks. Behavioural problems of the child must be taken care of by experts. Psycho-social evaluation of the patient helps the physician to give adequate support to the family members. ■

Dangerous Dan Microbe

A bunch of germs were hitting it up in the bronchial saloon; two bugs in the edge of the larynx were jazzing a ragtime tune. Back in the teeth, in a solo game, sat dangerous Ack-kerchoo; and watching his pulse was his light of love, the lady who's known as Flu.

Classification of Childhood Asthmatics

McNicol & Williams in their study among Melbourne School children graded asthmatic children into four categories (Paediatric Clinics of North America 1975 — Paediatric Allergy)

Grade A: **Subclinical Asthma:**

Children who started wheezing after the age of three and stopped before eight. Total attacks less than five.

Grade B: **Mild to moderate episodic asthma:**

Asthmatic attacks for four to five years with three to four attacks per year and the illness going into spontaneous remission by the age of ten or twelve. It is characterised by the absence of airway obstruction in between attacks.

Seventy five percent of the total asthmatic children seen belong to Grade A & B.

Grade C: **Moderately severe asthma:**

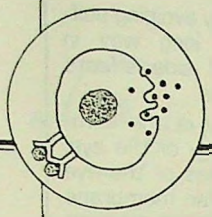
Onset before two years, attacks are generally severe and prolonged. Many have persistent airway obstruction between attacks. Asthma continues even after fourteen years into later life.

Grade D: **Severe Asthma:**

About only 3% of the total asthmatic children belong to this class. Even within a period of three months they can have as many as ten attacks. Episodes are severe and prolonged. Remission seldom lasts for more than a few weeks.

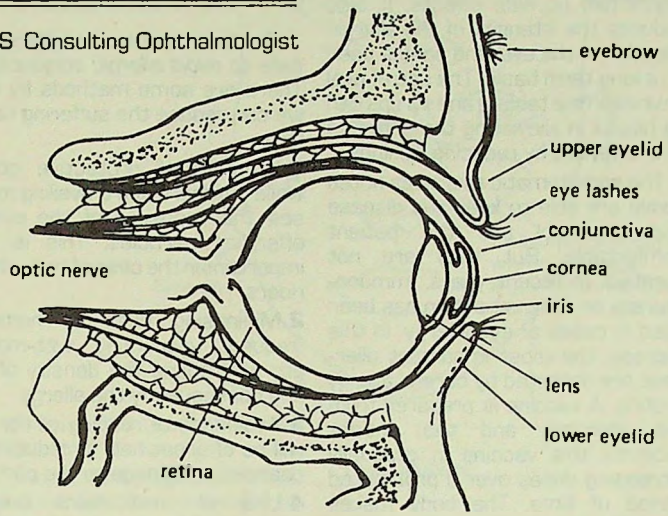
CREST (Centre for Rearch Education Service & Training) now has a US Aid Project for Natural Family Planning Training cleared by Georgetown Universitie's International Institute for Natural Family Planning Studies. Catholic Hospitals who are interested in letting their staff benefit from this Project may contact:

Director
CREST
14 High Street
Bangalore 560 005
Tel: 577 547



Allergy and the Eye

Dr Ram S Mirlay DOMS MS Consulting Ophthalmologist



We have all seen people rubbing their eyes which look watery and red. Such eyes, accompanied by itching, occur in many diseases of the eye. One of the common conditions is *Allergic conjunctivitis*. This is called *Vernal Catarrh, Spring Catarrh* and also by other less common names.

Allergic conjunctivitis has a tendency to occur more often in the spring and summer. It however, does occur in other seasons also, and cases can be found throughout the year. An unusual aspect of this disease is that children are affected more often than adults. Generally both eyes are affected, though not always, simultaneously.

Eyes become red, start to water and feel uncomfortable and itchy. These symptoms occur in a number of diseases. For instance, seasonal epidemic viral conjunctivitis presents similar symptoms, although the exudate that collects in the corners of the eye is more abundant in this condition compared to allergic conjunctivitis. In allergy, the eye discharge is watery, and often 'ropy' strands of mucus may appear.

How do doctors diagnose allergy of the eye? Examination of the eye, detailed history of the patient, and confirmation of the diagnosis by a few simple tests forms the basis of diagnosis. Generally, it is easy to recognise allergic conjunctivitis. The eye is pink in colour, often in certain regions of the sclera (the white of the eye). The conjunctival membrane looks velvety and raised. Sometimes this swelling gives rise to a 'cobblestone' appearance. Sometimes there is severe itching. The eyes are rubbed frequently, a habit that unfortunately adversely affects the eye. Another point that is characteristic is that the eyelashes are not stuck together, unlike in other conditions. Allergic conjunctivitis often occurs along with other 'allergic markers' such as rhinitis urticaria, or bronchial asthma.

The basis of allergy of the eye is becoming more clearly understood in recent years. Certain particles in the atmosphere such as pollens, dust, fungal spores etc are capable of causing allergic reaction in the eye. These, called allergens, evoke a specific immune reaction and cause allergic conjunctivitis.

A clinical aspect which is notable in cases of ocular allergy is that when the patient moves to an area free of the offending allergens, he feels better; this aspect can be elicited by careful history-taking. Likewise, when the subject returns to the area of original residence, the symptoms promptly reccur.

After the diagnosis of allergy is suspected on clinical grounds, it can be confirmed by examination of the secretions from the eye as well as conjunctival scrapings for cells called eosinophils; these cells are found in abundance in tissues wherein allergic reactions are occurring. The presence of allergy to a particular allergen can be established by allergy testing. In this test, a small amount of dilute solution of the allergen is placed on the skin and the skin pricked with a fine needle; a wheal (temporary red or pale raised area of the skin) at the site of test denotes allergy. Occasionally, a dilute solution of the allergen can be directly instilled into the eye and the reaction noted. These tests help in arriving at the cause of the airborne allergy.

After adequate diagnosis, treatment of allergic conjunctivitis is usually with medications instilled into the eye; these drops are intended to reduce the severity of the allergic reaction. Two types of drops are in common use. Steroid eye drops and ointments are very effective in controlling the symptoms of allergy. But *long term use of these drops can be associated with serious side effects*. Two of the side effects of importance are *Glaucoma* (increase in the tension of the eyeball leading to blindness if unchecked) and formation of lens opacity or *cataract*. The latter impairs vision and may need surgical removal. Hence it is very important to use the steroid

medications with great caution and only under the strict supervision of the treating doctor.

Another medication is Disodium cromoglycate, which is a medication which has no side effects. It also reduces the intensity of the allergic reaction in the eye, and can be used on a long term basis. The use of oral antihistamine tablets and syrups can be helpful in alleviating the suffering of the patient by reducing itching.

The symptomatic therapies noted above are able to keep the disease under control and the patient comfortable. But they are not curative. In recent years, immunotherapy or desensitisation has been used in cases of eye allergy. In this therapy, the most important allergens are detected by careful allergy testing. A vaccine is prepared from the allergens and the patient receives this vaccine in gradually increasing doses over a protracted period of time. The body makes antibodies to the allergens and the subject feels better due to the reduction of the allergy. The effects of the therapy are longer lasting and the patient has to use less doses of oral and eye medications.

Are there any precautions one can take to avoid allergic conjunctivitis? There are some methods by which we can reduce the suffering caused by it.

1 Wearing of protective goggles while outdoors and travelling minimises the exposure of the eyes to offending particles. This is more important in the case of two-wheeler riders.

2 Minimising dust at home by frequent vacuuming, wet-mopping etc will reduce the density of dust and consequently the allergy.

3 Avoidance of rubbing of the eyes will be of great help in reducing the chances of damage to the cornea.

4 Use of medications only as prescribed, and totally avoiding self-medication goes a long way in reducing chances of side effects caused by medications.

Conjunctival allergy is the commonest form of allergy of the eye. However, other tissues of the eye like choroid (a vascular membrane containing large branched pigment cells that lies between the retina and the sclera of the eye), sclera and even the retina can be affected by various forms of allergy and immune disorders.

Medical research progresses to find ways and means of combating ocular allergy and in the near future, one can hope for treatments which would be safe and effective. Meanwhile it is important to treat these conditions with caution and meticulous attention. Use of systemic and topical medications combined with immunotherapy can afford much needed relief to sufferers of ocular allergy. ■

Troubles

I've got a heap of troubles, and I've got to work them out. But I look around and see there's troubles all about. And when I see my troubles, I just look up and grin, and count all the troubles that I ain't in.

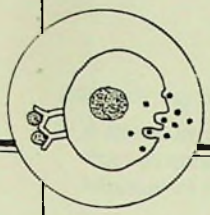
No easy

There is so much good in the worst of us, and so much bad in the best of us, that it's hard to tell which one of us ought to reform the rest of us.

— Jenkin Lloyd Jones

The only thing that hurts more than paying an income tax is not having to pay an income tax.

Lord Thomas R Dowar



Allergy in E.N.T.

Dr Kevin Pereira MBBS DLO MS

"The vaccinated person behaves in a different manner from him who has not previously been in contact with such an agent. Yet he is insensitive to it. His power to react has undergone a change. For this concept of changed reactivity I propose the term ALLERGY...." Von Pisquet 1906.

Allergy is the specifically altered state of the host after contact with a specific allergen. This contact with the allergen can have the clinical consequences of immunity, which protects from tissue damage, hypersensitivity which is tissue damaging, or of both in the same host.

The allergic manifestations in the field of Ear, Nose and Throat diseases may be *nasal, otological* or *bronchial*. The nasal conditions are common.

Nasal:

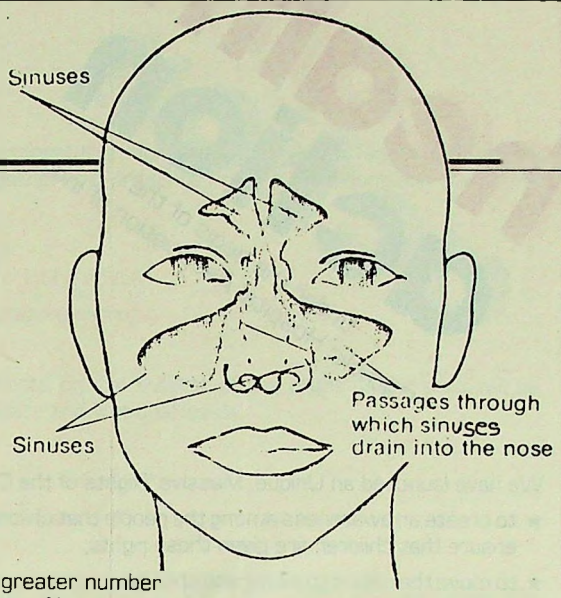
Rhinitis is clinically identified by the symptoms of sneezing, running nose and blocked nasal airway. If there is evidence of a tissue damaging allergic hypersensitivity process as the cause of symptoms, the rhinitis may be called as *allergic*. Features typical of a patient with symptoms arising from allergic hypersensitivity are

a a history of symptoms after exposure to a particular substance or season.

b a family history of such hypersensitiveness, and

c skin prick test positive for one or more of the common allergens.

The age of onset symptoms can be a guide to the degree of *atopy*. The proportion of positive skin prick tests is greater in those developing symptoms later. An individual with an earlier age of onset tends to be hypersensitive to a greater number of allergens than those of late onset.

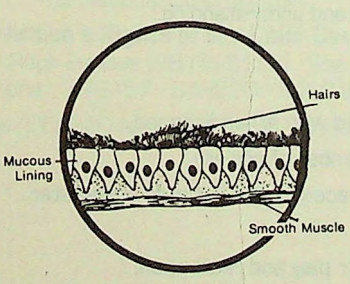


The Sinuses

The major immunoglobulin class responsible for the anaphylactic reactions in man is IgE which is produced in large amounts by allergic individuals when exposed to common allergens. IgE attaches firmly to the cell membranes, thus sensitizing the cell. Union of allergens with IgE in its cell bound state triggers a series of events which result in mast cell degranulation and the consequent symptoms.

Pre-disposing factors:

The airway of subjects with allergic rhinitis is seen often to be hyperreactive to a series of non-specific stimuli which include room air temperature, humidity and pollution. Cold air inhalation stimulates nasal glands and reduces nasal patency. Low indoor humidity and dust regularly provoke the hyperreactive airway of the allergic individual as will smoke, fumes and irritant smells.



The Nose Lining

Allergic reactions in the nose will not increase the frequency of viral infection such as common cold and influenza as is often thought, but marked nasal obstruction will alter the course of the infection and lead to a sustained purulent rhinosinusitis.

Psychological factors have been thought to play a part in allergic subjects and may act as predisposing factors or exciting factors, or may be brought on by the long and incapacitating nature of the condition.

Seasonal allergic rhinitis:

Allergy to pollens of grasses, flowers, trees and shrubs: It affects the nasal mucous membrane and also the pharyngeal, conjuctival and bronchial mucous membranes.

It usually commences during the first half of life. About 10% of the population suffer from *hay fever*. Ocular and nasal symptoms are closely related and after a few years the picture is further complicated by

health action

under the aegis of the Catholic Hospital Association of India

has taken up the cause of the Child.

We have launched an Unique, Massive 'Rights of the Child Campaign' (RCC)

★ to create an awareness among the people that children have certain rights and that we have the responsibility to ensure that children are given those rights;

★ to move the nation to eleminate child labour in our country and in cases where this is impossible, to protect their rights to a fair wage, proper working hours, better working conditions and a minimum education;

★ to prevail upon our Governments to recognise the plight of today's children and have political will to change their tears into smiles.

★ Children are the flowers of our future.

★ They are the best investment the nation can make.

★ They are the citizens of tomorrow, dreamers, planners, decision-makers and achievers.

★ Children cannot be healthy unless they are given all their rights.

★ Their rights will ensure that they grow into totally healthy individuals — physically, mentally, socially and spiritually.

★ Give them a gift today — help to create a better world for the children.

The draft convention of the Rights of the Child says:

"All Children, without any exception whatsoever shall be entitled to these Rights, without distinction or discrimination....

— Every child has the Right from birth to a name and nationality..

— That he may have a happy childhood..

— The Right to adequate pre-natal and post-natal care..

— The Right to adequate nutrition..

— The Right to parental affection, love and understanding..

— The Right to an education..

— The Right to adequate medical care..

— The Right to special care for the child who is handicapped..

— The Right to learn to be a useful member of society..

— The Right to be among the first to receive relief in times of disaster..

— The Right to develop abilities..

— The Right to enjoy full opportunity for play and recreation.

The Campaign has four phases:

1 A signature campaign — children will seek from the Government the implementation of their Rights. Signatures from all school and college going children will be put together and presented to the President and the Prime Minister of India for their perusal and necessary action.

What you can do:

a sponsor the paper required for the signature and the printing costs.

b organise schools and colleges to participate in the signature campaign.

c Mobilise political will to work for the rights of the child.

2 Essay writing, painting, elocution and photography contests on the subject of the plight of the child will be conducted for school and college students both at the State and National levels.

What you can do:

a Sponsor prizes for the various contests

b finance the administrative expenditure of this massive project

c organise these contests at the various states levels.

3 A Health Action Run for the Rights of the Child will be conducted in the Twin Cities of Hyderabad and Secunderabad to mark the adoption of the Charter of the Rights of the Child, the Birth Centenary of Chacha Nehru and to awaken and motivate the haves to work for the children who have-not.

What you can do:

a Give us your suggestions and active involvement

b finance and/or generate advertisements for the run

4 A special issue on Child Health will be brought out for the Health Action in November highlighting various aspects of child health in India today. The print order for this issue is one lakh copies.

What you can do:

a Help get as many advertisements for the special issue — the tariff is Rs. 10,000/- for a full color page.

Join us in this our campaign. Your contributions will be of immense help to us — we need your time, your ideas, your involvement and your active support and finance — each idea, each action, each rupee counts ! Come work with us to ensure a better tomorrow for our children, the hope of the Nation.

For details contact:

The National Co-ordinators

Health Action's Rights of the Child Campaign

157/6 Staff Road Gun Rock Enclave (PB No 2153) Secunderabad 500 003 AP

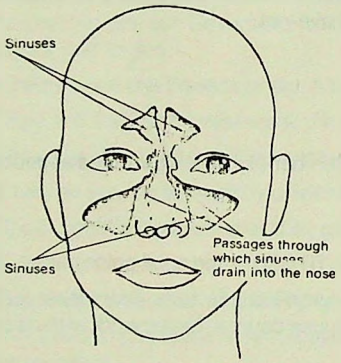
Phone: 848457 848293 841610

All contributions may be sent by Cheque/DD/MO favouring "HEALTH ACTION'S RCC" to the address above.

the development of bronchial symptoms (pollen asthma). For this population of allergic individuals the risk of developing asthma is increased two to three fold. When the allergic subject is exposed to the appropriate pollen the symptoms of nasal irritation and itching, recurrent attacks of paroxysmal sneezing, nasal obstruction and copious rhinorrhoea occur. There is also intense conjuctival irritation and a sensation of itching in the palate and pharynx. The eyes may become red and swollen. The nasal mucous membrane is congested and varies in colour from exceeding pallor to dull red.

Perennial allergic rhinitis:

The causes of allergy are house dust, mite sheddings and moulds.



The Sinuses

Food allergens which are often not discovered are important. The common ones are cow's milk, protein, eggs, fermented drinks, and citrus fruits. The diagnosis of perennial allergic rhinitis is made by inference when it is found in an atopic individual.

Management:

In all cases of allergic rhinitis a careful history must be taken which should include an enquiry about diet, pets, fumes and dust at home and at work, cosmetics and soap powders, seasonal influence or association of specific locality, family history of rhinitis, hay fever, asthma or eczema.

The assessment of the severity of symptoms is crucial to the management. When examining the nose, the colour of the mucosa, presence or absence of ethmoidal polypi, antro-choanal polypi, septal deviations, pus or hypertrophic mucous membrane should be noted.

Tests — Radiological examination of the sinuses will reveal any thickening of mucosa or the presence of polypi. Marked sinus opacity or fluid levels signify infection and call for antral puncture.

Specific tests for allergy:

Nasal secretion — there may be 80-90% eosinophils in the secretions of allergic individuals.

Blood tests:

If the nose is the only organ affected by allergy, the peripheral blood eosinophil count will be normal.

Serum IgE concentrations can be measured. High levels are associated with multiple positive skin tests, but again individual cases of allergic rhinitis may have levels within normal limits.

Skin tests:

The skin is raised with a sharp sterile needle dipped in solutions of the allergen. The skin shall not be prepared with spirit beforehand. Common allergens used are house dust, mite dander, Aspergillus fumigatus, etc. The reaction of the individual is measured by the immediate positive wheal and flare.

Nasal, provocation tests — The nasal mucosa is exposed to the allergen and the reaction of the mucous membrane is assessed as regards to its appearance, discharge, sneezing and obstruction.

The radioallergosorbent test — This is a sensitive *in vitro* method for estimating IgE antibodies to particular allergens.

Treatment:

Allergic Rhinitis may be managed by (a) avoidance (b) hyposensitization and (c) drugs.

Avoidance means avoiding a known allergen eg feather, dust, detergents, etc.

Hyposensitization:

It helps people with seasonal allergy. They are given injections of the soluble allergen extracts in varying concentrations so that immunity is stimulated. These courses are prolonged but have given good results when known allergens are used.

Drugs:

Antihistamines block the cellular histamine receptors and act as pharmacological histamine antagonistis. They are very useful in controlling sneezing and rhinorrhoea. But they usually cause drowsiness in doses which are required to control severe allergy.

Antihistamines are often used in association with oral decongestants such are ephidrine, pseudoephidrine and phenyl propanolamine. The combination is justified as synergisms has been demonstrated between antihistamine (pharmacological histamine antagonist) and a sympathomimetic compound (physiological histamine antagonist). Also sympathomimetic compounds counteract the drowsiness produced by antihistamines.

Sodium cromoglycate stabilizes mast cells and blocks degranulation after antigen-antibody union. It can control both seasonal and perennial allergic rhinitis. It is commonly used as a nasal spray or as drops or as a powder for insufflation. Topical and systemic steroids are useful in severe nasal allergy. Often a topical steroid is used eg. betamethasone dipropionate. But when the symptoms are distressing in certain instances for example a student appearing for examinations, systemic steroids are justifiable. The drug is administered by a standard metered aerosol which delivers 50 mg of beclomethasone per puff. Many years experience of beclomethasone has shown it to be free of side effects both clinically or on nasal biopsy with the exception of occasional mild nasal bleeding. At least two-thirds of patients with perennial allergic rhinitis will benefit from treatment. Beclomethasone dipropionate does not act immediately and must be used regularly throughout the day to achieve 24 hours relief of symptoms.

From page 11

the child is harbouring any parasites and to treat it accordingly. Antihistamines are usually the most useful therapeutic agents (agents to reduce the itching in urticarial disorders). These can be given in the form of tablets or syrups. A little extra sedation is one worrying problem parents face on giving antihistamines. If allergic reaction is so severe Adrenaline injection is very effective and often life saving. Corticosteroids are sometimes used in the more chronic form, but are prescribed for more refractory cases. Cortcosteroids if used without controlling the primary cause such as bacterial infection of the skin or tooth, will only prolong the itching. Very often parents insist on some topical applications, but they are not very effective except for a soothing effect eg: Calamine lotion.

The first episode of urticaria can be very upsetting and frightening for both the child as well as the parent and a basic knowledge about them is essential to face this problem more composedly. ■

From page 15

Continue treatment until healing is complete. Warn the patient about extreme vulnerability of skin for few weeks.

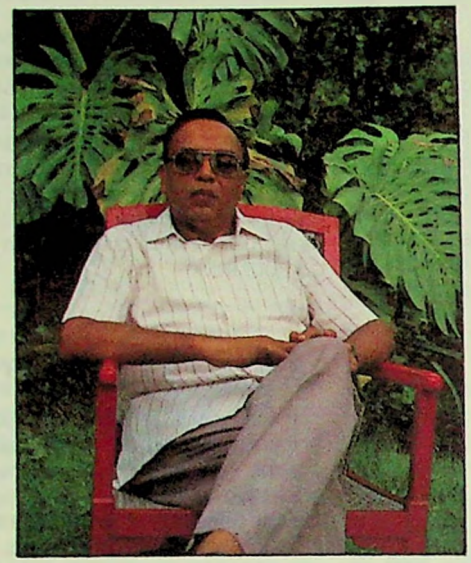
After discontinuation of treatment, keep the patient under supervision until physical and emotional rehabilitation is complete.

Chronic Eczema:
Secondary factors are of greater importance.

— Effects of rubbing;
— Secondary infection;
— Sensitization to applied medication may dominate clinical picture;
— Persistent eczema may lead to loss of employment & severe anxiety.

Exclude underlying, systemic disease.

Intralesional injections of steroids are not required, due to availability of potent steroids & efficacy of occlusive dressing. Skillful psychological handling of the patient is of vital importance. To prevent recurrance, prophylactic use of emollients & psychotherapy are important.

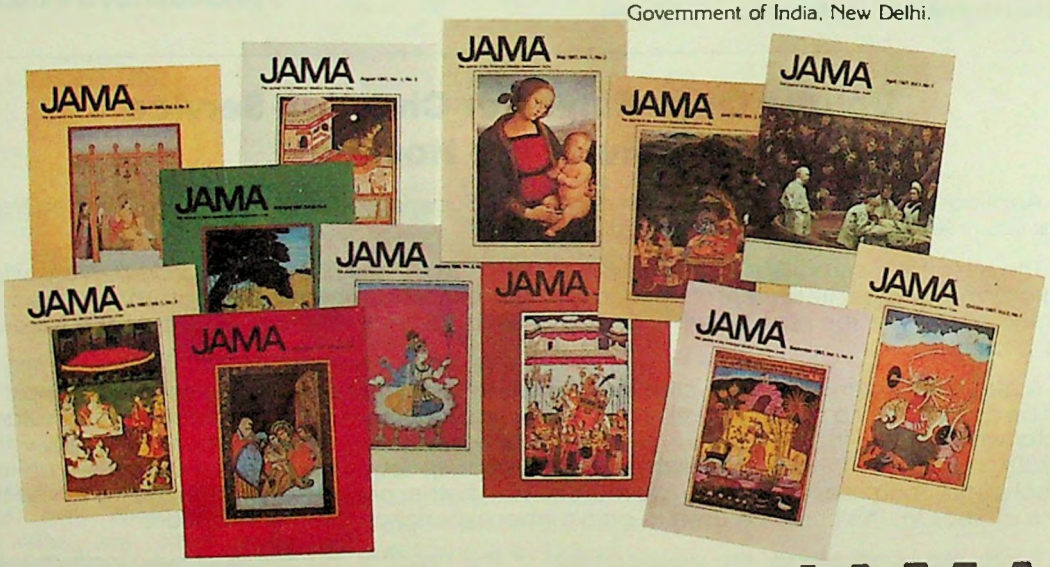


"The primary role of the medical profession in 'Health for all by 2000 AD' is gradually becoming more and more significant.In order to be effective, a synthesis of traditional medical knowledge and application of modern methods of medical management is essential.
JAMA India has been making significant contri butions in this direction.

It is expected that the professional contents of JAMA - India alongwith the Indian perspectives, will make significant advances towards task-oriented training and continuing education of the members of the medical professionals in India".

Indra Bhargava

Dr. Indra Bhargava
M.S.,D.Sc., M.Sc.,F.A.M.S., F.I.A.P.
Deputy Director General of Health Services,
Government of India, New Delhi.



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The white spot prejudice

Dr CH Rajasekhar

"It has been stated that the biggest problems in the world are very tiny — the atom, ovum and the touch of pigment".

Sitting in the clinic I come across a number of curious questions:

Doctor,

- I am having a white spot for the last 6 months, gradually increasing in size, I feel I am not perceiving normal sensation over it. Could it be leprosy?
- My boy is having many white spots over back and chest, are they dangerous?
- My father is suffering from leprosy, will I get the disease?

To answer all these questions, we must have an understanding of the normal physiology of pigmentation and the diseases which affect pigmentation.

What is the normal skin color due to?

It is due to the amount of pigment called 'melanin' present in the skin, the pigment being produced by cells called melanocytes. The number of melanocytes is the same in all races. The difference in the colour of the skin is due to variations in the amount and distribution of pigment in the skin.

What produces white spots?

White spots are due to a decrease or absence of the pigment forming cells or an abnormality in the synthesis and dispersal of the pigment in the skin.

Conditions producing white spots:

1. **At birth:** Albinism, phenylketonuria, naevi;
2. **Childhood:** Pityriasisalba; vitiligo; early leprosy;
3. **Adults:** Leprosy; vitiligo; Tinea versicolor;

Why should we know about them?

- Patients presenting with white spots is relatively a *common problem* encouraged in the society.
- Their *early detection* helps to prevent grave *complications*. For instance, the gross deformities seen in leprosy can be completely averted if diagnosed early.
- An infectious type if treated early can prevent its *spread* in the society.
- It becomes the duty of a doctor to alleviate/remove the misconceptions & prejudice against white spots.

★ What is Leprosy?

It is a chronic disease caused by a bacterium called Mycobacterium leprae.

Magnitude of the problem:

— About one-third of the world cases of leprosy are found in India numbering about 4 million. About half of these cases are concentrated in the two southern states of Tamilnadu and Andhra Pradesh.

— Another perview of it being considered a major problem is the social stigma attached to it.

Transmission:

Leprosy is probably transmitted from its only source, man by dispersal of the bacteria from the nose or mouth of an infectious case or by prolonged skin to skin contact.

Heredity:

The misconception that leprosy runs in families, from parents to children is totally baseless. Parents suffering with leprosy beget normal healthy children.

Types:

- Infective and non-infective.
- The infective types account for only 20% of the cases and are seen in persons of lowered immunity. The non-infective form constituting 80% of Leprosy patients is seen in persons with fairly good immunity.

Features:

The cardinal features are:

- *White spots* with partial or complete *loss of sensation*, the earliest being loss of thermal sensation.
- *Thickened nerves*, usually at the elbow, knee or behind ear.
- Sometimes there is loss of hair in the white spot.

Non-infective

1 The number of spots is few ranging from 1 - 10.
2 Thickening of nerves is early.
3 Deformities are frequently seen.

Infective

1 Spots are numerous. Nodules are frequently seen.
2 Thickening of face, earlobes and loss of eye brows may be seen.
3 Loss of sensation over hands and feet may be present bilaterally.

Does Leprosy lead to complications?
YES

- Leprosy may produce a number of deformities if not diagnosed early & treated. They may be due to *nerve damage* — clawhand, wrist-drop; Foot drop lagophthalmos.
  or
  loss of sensation — ulcers on hands & feet leading to repeated loss of fingers and toes trauma.
- Infective form of leprosy in some cases may produce damage to nerves, eye, bones, testes & kidney.

How to diagnose leprosy?

Leprosy can be easily diagnosed.

1 By clinical examination:

— by studying the morphology of lesions

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1 **By clinical examination:**
— by studying the morphology of lesions
— by testing for loss of pain sensation with a prick of a

needle, that of temperature by hot & cold water & that of touch by a wisp of cotton.

— by looking for thickened nerves.

2 By Skin smear examination

3 By Lepromin test

Confirmation of the diagnosis is by skin biopsy.

Treatment:

Leprosy is 100% curable. Today highly effective and less expensive drugs are available to achieve a complete cure. An infectious patient is made non-infectious within a period of few weeks by applying the multidrug regimen. The drugs primarily used are Dapsone, Rifampicin, and Clofazamine. These drugs need to be taken for a period of 6 months to 1 year for the non-infective type & for 2 years in the infective type of leprosy.

★ Vitiligo:

Another most common cause of white spots is vitiligo. The problem lies in

1 it being confused with leprosy (in some areas it is known as "white leprosy");

2 the popular belief that the disease in incurable, which is baseless;

3 its cosmetically disfiguring nature;

What is Vitiligo?

It is a hereditary, acquired disease due to localised loss of pigment cells, they being destroyed by an unknown mechanism. It is a benign condition with no serious underlying disorder.

The problem:

It is seen in 1% of the population and affects all races.

Heredity:

Vitiligo is a familial condition; about 30% of the patients give a history of another member in the family suffering from it.

Features:

Vitiligo is characterised by chalky white spots which may be seen anywhere on the body. There is no alteration of sensation. Whitening of the hair in the lesion may be seen. The number of spots vary from few to many.

Rarely it may be associated with diabetes or thyroid disorders.

Is Vitiligo curable?

Yes. Vitiligo is curable and effective drugs extracted from plants called psoralem are available.

★ Other conditions producing White spots:

Pityriasis alba:

Very common in children, it is often confused with early leprosy or Vitiligo causing parental anxiety. White spots are usually found on the face. They are harmless and gradually disappear with age.

Tinea Versicolor:

It is an infection caused by a fungus called Pityrosporum orbiculare. The white spots are typically found on upper back and chest. It is completely curable by drugs like sulfur, selenium sulfide, salicylic acid and other drugs.

Conclusion:

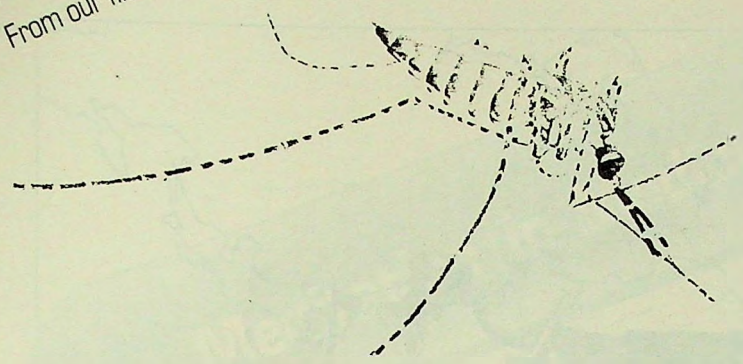
A white spot found on your body should not be a matter of mental agony but a condition for prompt action.

Consult your doctor as and when you notice

- a white spot with alteration of sensation or without;
- loss of eye brows or eye lashes;
- loss of sensation of hands and feet with or without swelling;
- Any deformities of hands and feet appearing suddenly;

Let us commit ourselves to control & eradicate leprosy from our country. ■

From our files...



- The resistance developed by the No 1 killer malaria parasite — *Plasmodium falciparum* — to antimalaria drugs, and especially to chloroquine which is widely used around the world. Resistance is the response of malaria parasites to the growing use of anti-malaria drugs in doses insufficient to eliminate them. Resistance to chloroquine was first recorded in 1957, and it has now been detected in some malaria areas in more than 50 countries.
- The implementation of large development projects in agriculture, industry and mining, along with the building of the associated infrastructure like hydroelectric dams. These projects have created enormous ecological changes that promote the growth of germ-carrying mosquitoes through increasing their contact with people.

Areas which were malaria-free are now threatened with re-infestation due to the rapid movement of both carrier insects and infected people from endemic to non-infected areas.

- Massive migrations of people in search of land and work, which is related to the above. In Brazil, for example, along the Trans-Amazon highway — an agricultural colonisation project aimed at resettling some 1 million families — as many as a quarter of the settlers have been incapacitated by malaria year after year.

Similarly, migration of rural people to cities has led to the random settlement of marginal groups in precarious housing in areas without paved roads, sewage or garbage collection. Poor sanitation contributes to the increase in mosquitoes in suburban areas.

- The lack of financial resources to invest in health, sanitation and education, all of which are vital to keeping malaria under control.

This situation has been worsened by the financial constraints imposed

Global eradication: the unrealistic goal

In November 1987, the people of the Indian Ocean island of Madagascar were expecting the rains that mark the beginning of the wet season. But they were not prepared for what came with the rains: a malaria epidemic that, by the end of the season in April 1988, claimed 100,000 lives.

After almost 20 years of absence — due to the eradication campaign by the then French colonial administration between 1950 and 1970 — malaria mosquitoes returned to breed in the irrigation channels of the paddy fields in the highlands of Madagascar. Then the insects bit people who had lost tolerance to a disease that had not affected them for a generation.

Although the extent of the killer epidemic in Madagascar appears to have been exceptional, many areas of Africa, Asia and Latin America have been facing the resurgence of previously controlled diseases like malaria.

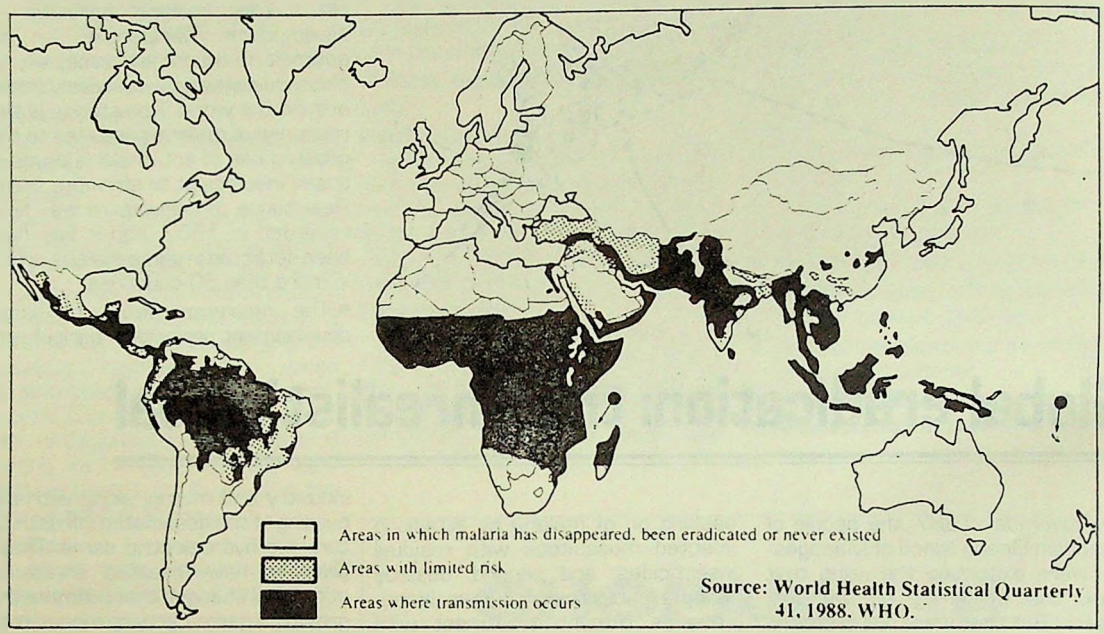
Significant progress was achieved in several malaria areas of the developing world — especially in Latin America and some parts of Asia — during the 1950s and 1960s. It was thought malaria could be eradicated.

At that time, the strategy of the World Health Organization (WHO) was two-pronged: first, halt the passing on of malaria by attacking infected mosquitoes with residual insecticides: and second, destroy malaria parasites in human bloodstreams through treatment with anti-malaria drugs.

Financial, technical and logistical resources provided by the multilateral and bilateral agencies helped to set up the needed infrastructure. As a result in most nations of Latin America, for example, deaths from malaria practically disappeared by 1970.

But the achievements did not last long. The goal of eradication proved to be unrealistic. There have been several reasons for this:

- Once the bilateral and/or multilateral organisations helping with malaria eradication withdrew from the scene, local governments either could not afford the follow-up needed to consolidate the results already attained, or they had different priorities.
- The wide and indiscriminate use of chemical pesticides in agriculture which has led to carriers of malaria becoming genetically resistant to insecticides. Currently, many species that carry malaria parasites are resistant to more than one insecticide, including chlorinates, organophosphates and some carbamates.



Source: World Health Statistical Quarterly 41, 1988. WHO.

by the external debt crisis in all developing countries. Programmes of structural adjustment usually demand heavy cuts in social expenditure — which means the sort of service described above.

The combination of these economic, environmental, socio-cultural and technical factors proved that it was unrealistic to believe that malaria was being eradicated. Instead, malaria is on the increase again — and it is being found not only in known areas but also in zones that were previously disease-free.

According to WHO's latest estimates, there are 100 million clinical cases of malaria in the world each year, 80 million of which occur in Africa (*World Health Statistics Quarterly*, 40, 1987). At the turn of this century, the number of cases was 250 million throughout the world.

But statistical analysis by Swiss scientist D.Sturchler suggests that a realistic estimate for 1986 is 489 million clinical cases — including 234 million due to *Plasmodium falciparum*, of whom at least 2.3 million would have died (*Parasitology Today*, Vol 5. No 2, 1989).

Despite the differences, by WHO's own account, "malaria remains a major public health problem and continues to be an obstacle to development."

from Panoscope

Health for All

Health is the most precious birth-right,
Owned by every living person on this earth,
This adage health for all, and all for health,
From and for everyone it must be felt.

Expectant parents, Ante-natal visits you must make,
Be ready for health and other responsibilities to take,
Ante-natal mothers you care for the health of two,
Balance diet and nourishment for the foetus and you,

Mothers, you have already began your task,
Breast-feeding, immunization, health education you ask,
Infants, todlers, school children growing day by day
Child welfare clinics lead children in a healthy way.

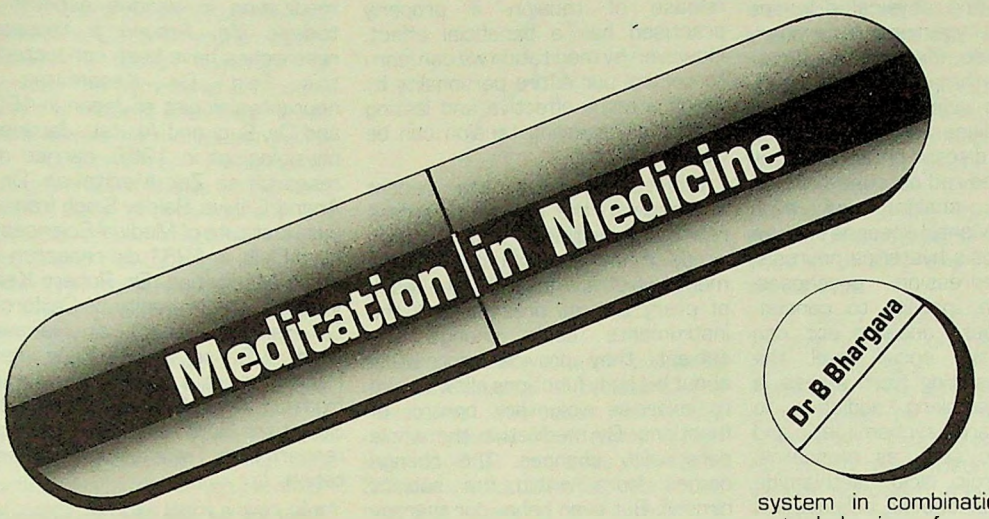
Teenagers, Youth, adults, are in the prime of life,
Care for yourselves in minor ailments and strife,
Prevention of occupational hazards in your role,
Promotion of health in work places is your goal.

Geriatric people good health is your very own,
You are weak, weary, lonely unsteady and worn,
You must eat good food, and must take good rest,
Visits to primary health clinics will be the best.

Politicians, a very important role you play,
Provision of basic needs and health facilities need today.

You may be young or you may be old,
For health cannot be bought or sold,
So it is up to us to work heart and soul,
And by 2000 A.D. we must reach our goal.

by **Mary Rozario RN RM**
Madras



Dr B Bhargava

Most people think that Meditation is sort of a religious activity, involving some attempt to control the mind and it is intended only for religious or mystic people. But now it is being increasingly recognised by modern physiologists, psychologists and sociologists that meditation should become a part of our daily life to protect us from the stress. The intense, active mode of life that we lead puts a lot of pressure on us.

Stress has become a major inescapable problem in the present society since it is a part of our daily life. Today man is being subjected to a far greater mental stress and strain than anytime before in history. Our technical and economic progress has created a life-style with which the individual finds it difficult to keep pace. Stress and strain is the penalty which he pays for being civilised. Stress acts like a slow poison and when prolonged, can cause serious physiological and psychological disorders, the so called **Psychosomatic diseases.** These psychosomatic disorders are increasing in the present society.

Before knowing how meditation protects from the stress, let us try to understand what stress is:

Stress can be physical, emotional or mental. Stress is a demanding situation on the human physiology.

Stress are of two types--One is physical stress like accidents, burns, major surgeries etc. which make more demands on the entire physiology. The other is psychological stress which is on the rise in the present society, like fear, anxiety, tension, worry, jealousy, anger, hatred, emotional upsets, over excitement.

There are many causes of stress. Failure to adapt, failures in daily life, changes in the life pattern, death of a dearest one or changes in work or residence, noisy environment, disruption in the circadian rhythm (internal rhythm of biological process which follows a cycle of 24 hours) are some of the important causes. In the modern society with a fast life-style there are hundreds of situations which produce stress. Some individuals are easily susceptible to stress than others. These people show a high pulse rate, high respiratory rate, increased systolic blood pressure, increased metabolic rate etc.

A certain degree of stress is a part of our daily living and our body adopts well to the situation of stress. When exposed to a stressful situation, the body tries to minimise it or eliminate it completely by means of a number of systematic physiological or psychological responses. In times of stress, the sympathetic nervous system in combination with the catecholamine (any of various substances that function as harmones or neurotransmitters or both) secretions of the adrenal medula i.e. Adrenaline and Noradrenaline prepares the organism for fight or flight. *The strength, regularity and the rate of the heart beat speeds up, spleen contracts, liver releases glucose, blood supply is directed from skin and viscera to the brain and muscles, pupils dilate, bronchi dilate, digestion stops, the arteries constrict and cause an increase in blood pressure. Thus the whole body is prepared against stress.* The body exhausts if remains for long in the above situation. After release from stressful condition, para-sympathetic nervous system in combination with the harmones of the adrenal cortex restores the normal balance of the body by lowering the blood pressure, heart rate and directing the blood to skin etc. If stressful situations are severe and prolonged and if they become a continuous feature, the body's adaptation mechanism fails, the body is exhausted. The effects of stress depends upon the intensity of the demand made upon adaptive capacity of the body. The changes brought by the body mechanism cope with stress such as increase in heart beat, blood pressure etc. and cause disruption of normal working of the body which may cause diseases.

The resulting physical diseases are essential hypertension, coronary heart disease, diabetes mellitus, bronchial asthma, migraine headache, peptic ulcer, insomnia, back ache, skin diseases like psoriases (chronic skin disease chracterised by circumscribed red patches covered with white scalds) and even malignancy. Mental illnesses such as anxiety neurosis, hysterical neurosis, phobias, depression, psychoses, schizophrenia, inability to concentrate and make decision etc. can occur. At the social level, the pathology resulting from stress is alcoholism, smoking, addiction to drugs which are psychomimetic and hallucinogenic such as mescaline, opium, lysergic acid diethlamids (LSD) etc. maladaptive delinquency, white-collar crime, mental illness and lastly suicides.

There are many coping methods which people employ to reduce stress. The Chinese were famous for smoking opium; Siberians used to chew the Sacred mushrooms; Arabs used to inhale hashish. Now-a-days tranquilizers such as valium, librium, anti-depressants, drugs like marijuana, opiates etc.alcohol and smoking are employed to cope with stress. These coping techniques are inadequate and bring only temporary relief and the negative aspect is people become addicted and dependent on them. The side-effects of these techniques are well known to everyone.

The more positive and ameliorative techniques to cope with stress are relaxation, bio feed back, meditation and behaviour therapy. The best method as proved by scientific investigations is meditation. It provides relaxation of mind and body. The method of relaxation is based on the premise that there is a correlation between muscle tension and emotional stress, and from this premise arose the supposition that if muscle tension could be relieved, mental relaxation could be attained. So the person is advised to relax various muscle groups in the head, neck, knees, legs, chest, arms, and so on throughout the body. This type of release of tension, if properly practised has a beneficial effect. However, by meditation we can learn to control our entire personality by which a more effective and lasting means of removing tension can be obtained.

Biofeed back is the recent approach to the control of stress related conditions. This method needs many sophisticated instruments which are not within the reach of every one at present. But the instruments don't change the subject, they provide information about his body functions allowing him to exercise voluntary control of functions. By meditation the whole personality changes. The change comes from within the subject himself. But even behaviour therapy is not within the reach of every one at present.

Meditation is a process of growth, a growth of our total living out of our total living. It is a total flowering of our personality. Spiritually meditation has a higher place. Buddhism, Zorastrianism, Sufism, Islamic mystics, Christian monks, Yogs, all give importance to meditation. According to Swami Vivekananda, *"Meditation is the HIGHEST STATE. IT is a spiritual unfoldment leading to self knowledge."*

Meditation can be defined as a practice or method by which the activity of conscious mind ceases and the mind enters into pure consciousness. It is a technique by which the wayward destructive mind can be diverted into planned, constructive channels. When the mind has been trained to remain fixed on a certain internal or external location, then it aquires the power of flowering in an unbroken current towards that point. This state is called Meditation. Meditation relieves all types of physical, physiological and psychological stress and gives a deep relaxation which can be experience within a few days or after weeks of practice. Meditation has been proved to cure psychosomatic disorders which are on the rise in the world.

Many scientists have investigated meditation in various aspects of today's life. Around a thousand researches have been conducted in this field. Dr Kasamatsu, a neurophysiologist of Japan in 1957 and Dr. Sugi and Akutsu, Japanese physiologists in 1968, carried out research on Zen Meditation. Dr S Anand, Chhiva, Baldev Singh from All India Institute of Medical Sciences of New Delhi in 1961 did research on Yogic Meditation. Dr Robert Keith Wallace, at University of California, Dr Herbert Benson at Harward Medical School in 1970, Dr Jean-Paul Banquiet a Neuro Physiologist from U.S.A. in 1972 are some of the Scientists who have done valuable research on Transcendental meditation.

Now let us see the physiological changes produced by meditation which provide a deep relaxation. When we are in a state of wakefulness, the oxygen consumption, metabolic rate, cardiac output, etc. are within a range according to the activity. Electroencephalogram (EEG) shows a low voltage mixed frequency and/or alpha activity, and a moment of tension or an attempt to solve a mental problem may disrupt it.

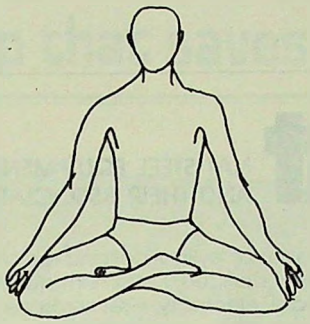
When we are sleeping, metabolic rate decreases, oxygen consumption decreases by about 10-15%, cardiac output decreases by about 20%. During deep sleep the heart rate, respiratory rate and blood pressure falls to the lowest level of the circadian rhythm.

During Meditation significant changes occur in the above mentioned things which indicate a deep level of relaxation of mind and body. During meditation, the oxygen consumption decreases by 20% within a few minutes after the onset of meditation, thereby resulting in a decrease in metabolic rate. Cardiac output decreases significantly with a mean decrease of about 25%. The heart rate shows a mean decrease of about 5 beats per minute. The respiratory rate decreases with a mean decrease of 3 breaths per minute. Respiration becomes slow and shallow. The blood pressure

tends to decrease with intermediate fluctuations. Electromyogram (EMG) indicates a deep relaxation of muscles. The sympathetic nervous system is relaxed, with lower levels of the stress hormones adrenaline and noradrenaline. Electroencephalogram (EEG) shows an increase in alpha wave activity (usually 8-9 cycles per second) that occurs in the central and frontal regions. Sometimes rhythmical Theta-wave activity (5-7 cps) that occurs in the central and frontal regions. Sometimes rhythmical Theta-wave activity (5-7 cps) appears in the frontal regions. Neurologist Dr Jean Paul Banquiet found that the brain wave patterns tend to synchronize during deep transcendental meditation. He observed synchronuous Beta waves of an almost constant frequency and amplitude from all points on the scalp. According to him, the frequency of this highly ordered pattern indicates inner wakefulness and may represent the underlying physiology of the reported experience of profound wakefulness or pure consciouness.

An important finding is blood lactate concentration. Lactate is produced by anaerobic metabolism in muscle tissue and the level of blood lactate is a biochemical index of stress. A high level of blood lactate during stress is seen, in anxiety neurosis. The levels decrease when a person is at rest or asleep. In meditation the blood lactate concentration was found to decrease at an average of 33% and the rate of decline was more than three times faster than the normal rest. A decrease in Glucose metabolism in Red Blood corpuscles (R.B.C's) is found.

The State of relaxation is measured by the Galvanic skin resistance test (GSR). GSR is mainly used in lie-detector test. GSR is a measure of the resistance of the skin to a mild electrical current flowing between two electrodes usually on the palm of the hand. When the person is relaxed the skin is dry and the current passes relatively slowly as the resistance to its flow is high.



cases of anxiety, wherein sweating occurs. Because of moisture, the resistance decreases, and the current passes more easily. A high level of GSR increases by about 50%. In meditation it has been found out that there is an increase of 500% in GSR after only 10 minutes.

All these findings suggest that Meditation produces a wakeful hypometabolic, physiologic state of deep relaxation. Dr. Robert Keith wallace, President, Maharishi International University, proposes this state as a fourth major state of consciousness.

Investigations conducted on patients practising meditation show improvement in a wide variety of physical and mental disorders. They include Hypertension, Angina Pectoris, Bronchial Asthma, Chronic Bronchitis, Diabetes Mellitus, Menorrhagia, (abnormally profuse menstrual flow) Allergies, dyspepsia, (indigestion) Insomnia, Depression, Epilepsy, Anxiety neurosis, Obsessive compulsive neurosis, Chronic headaches etc. Studies continue to show that regular practice of meditation reduces or completely eliminates the use of both prescription drugs such as amphtamines, barbiturates, tranquilizers, anti-anginal and anti-hypertensives and non prescription drugs such as marijuana, opiates, hallucinogens etc. and also alcohol and cigarettes. Studies conducted on pregnant woman practising meditation show fewer medical complaints during pregnancy, less pain and anxiety during pregnancy and child birth, shorter duration of labour, lower frequency of instrumental intervention during labour, greater frequency and longer duration of breast feeding.

Psychologically, practising meditation shows an increase in mental and emotional balance, decreased anxiety, reduced depression and neuroticism, increased self confidence, increased learning ability, speed in solving problems accurately, orderliness in thinking and integration of personality.

To learn meditation, there are various schools of meditation like Zen Meditation of Buddhism, Patanjali's Yogic Meditation, Maharishi Mahesh Yogi's Transcendental Meditation, Vipasyana meditation etc. which teach Meditation. These various schools of meditation differ mainly on one or two technical aspects of Meditation, but all give importance to spiritual side of meditation, that is *self realisation or Nirvana.*

Therapeutically speaking, one can learn any type of Meditation, but after consulting his doctor and only under an expert's supervision.

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1 Mental tension and its cure — Dr OP Jaggi

2 Neurophysiology of Enlightenment — presented by Dr Robert Keith Wallace at 26th INTERNATIONAL CONGRESS OF PHYSIOLOGICAL SCIENCES NEW DELHI. OCTOBER 22nd, 1974.

3 Scientific Research on Transcedental Meditation collected papers, Vol 1 eds David W Orme Johnson, Lawrence H. Domash and John T Farrow (Los Angles, USA. MIU Press)

4 Paths of Meditation (Ramakrishna Math Publication)

5 The complete works of Swami Vivekananda (Ramakrishna Math Publication).

6 Concentration and Meditation — Swami Sivananda.

A sip that saves live...! A Report

"She is weak, tired and wants to sleep.
Her eyes look sunken and dry.
She has no tears.
Her tongue is dry. She feels thirsty.
The soft spot on a baby's head gets sunken.
Her skin loses its firmness and looks wrinkled.
If her skin is pinched, it stays folded for a few seconds.
She starts panting or breathing fast.
She faints or gets convulsions.
She passes little or no urine.
Her stomach gets distended, especially in a malnourished child."

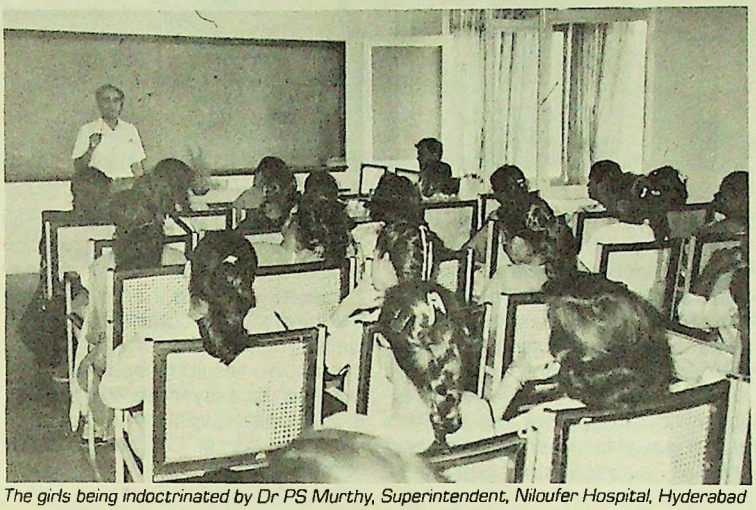
because there isn't enough water in *her* body. It is diarrhoea which expels precious water from the body, the result is — DEHYDRATION! Every 20 seconds, while we are either working, eating, sleeping or relaxing, a child dies somewhere in the country because there is not enough water in the body.

Why do so many children die of dehydration? — approximately 1.5 million every year in India alone !

Is the cure very expensive and out of the reach of the poor?

No! The cure is simple, cheap and can be made available anywhere, what we need is the 'will' to let people know what it is.

UNICEF, Health Action under Catholic Hospital Association of India and the Government of AP decided to take on the overwhelming responsibility of spreading the message, the message of **Oral Rehydration Therapy.** It was an unique project indeed, a pioneer effort launched in the Twin cities of Hyderabad and Secunderabad on an experimental basis. The project spanned a period of about two months starting from 16th of May 1989 to 6th of July 1989. College girls who were having holidays came forward to set up ORT Corners in the Twin cities. These girls were given an intense Two-day Orientation Course on the causes, symptoms, treatment and prevention of diarrhoea.



The girls being indoctrinated by Dr PS Murthy, Superintendent, Niloufer Hospital, Hyderabad during the Orientation Course.

Dr PS Murthy, Superintendent, Niloufer Hospital, Hyderabad, Dr Shivalingam, in-charge ORT Corner at the same hospital and Dr GK Gupta of St. Theresa's Hospital, Sanatnagar, took time off their very busy schedule and imparted basic knowledge of diarrhoea treatment to the girls.

About 10 ORT Corners were put up in Hyderabad and Secunderabad at vantage points to take the

ORT Corner at Nampally Railway Station, Hyderabad

ORT Corners at the City Bus-Depot, Afzalguni

message to the people. The areas covered were the Railway stations, General Post-offices, the two Bus-depots, Airport, Health Museum, etc. The ORT Corners were made attractive with the girls spreading the ORT message, dressed in smart aprons bearing the ORT 'Water-is-life' symbol. They were also provided with a can, glasses, oral rehydration solution packets and pamphlets

These ORT Corners were found to be very effective. The personal touch provided by the team helped immensely in conveying the message meaningfully. Almost a lakh of people were enlightened on the frightening casualities resulting from dehydration and the easy method of tackling it. We hope these, in turn, will pass on the message of ORT to as many others around them.

ORT Corner at the Secunderabad Railway Station

giving in brief all the necessary information in English, Telugu and Urdu. These Corners were open from 10 am to 5 pm and a team of two girls each demonstrated preparation of the solution, talked to people about how to feed diarrhoea victims, how to monitor the symptoms, the kind of food that should be given etc.

We dream and plan for projects in other areas, aim to cover the entire population of India, thus eliminate 'Diarrhoea Deaths' from our country in the very near future. We hope that no more buds are nipped before they flower — to give their fragrance and beauty and serve the humanity.

Yes, we have a dream !
You can help it come true !

HEALTH ACTION, July 1989 Issue — *Community Health*

some errors

Guest Editorial Para 5:
'Activities and researches' should read as 'activists and Researchers'

Page 5:
Note on CHC team, Bangalore
'promoted' should read as promotes

Page 5:
Box No. 1 neither numbered nor indicated in the text.

Page 6:
Box No. 3 not indicated in the text.

Page 10:
Last 2 paras of Box No. 4 not shown in box fashion.

BOLD letters should have been used to start Alternative Health Project....

Page 11.
Last column, para 1: 'leaving' to 'learning'

Page 13
Box No. 7 'alloted' to 'alotted'

Page 13:
Search and Experimentation.... sub-title not numbered 'c'

Page 14
Recognition... resources... sub-title not numbered 'd'

Box No. 8 should have appeared on page 14.

Box No. 8 para 2: meaning of the starting sentence changes because of a semi colon after government. It is 'Government ANM' and not 'Government; ANM'

Page 15:
'h' last para should have ended with 'and so on'.

There is no mention of Box 9 in the text.

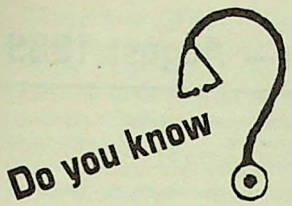
Box No. 9 'The Mandwa Experience', para 1: One line has been left out. 'if they were contacts of the sputum....' should read as 'if they were contacts of known cases. If diagnosis... of the sputum'.

Page 20:
Para 5. 'all these who' to 'all those who'

Page 22:
Negative trends should have had a bold heading (central column)

Page 24:
Para 1: 'circulation' courses should read as 'orientation' courses

Page 29:
'Exploring Jargaon' is CHC's contribution while 'ALMA ATA — Ten Years After' is a separate article.



That any drug can produce drug allergy?

Allergic reactions to drugs (medicines) are very common these days due to the increased use of drugs. In addition self medication is also rampant.

There are various types of drug allergies. Some are harmless and self limiting. But some are severe enough to be fatal inspite of prompt treatment.

Some doctors firmly believe that certain drugs do not produce allergy since they have not come across such cases. Though certain drugs produce allergy more often than others, practically no drug is free from allergy. Often when a patient develops an allergic reaction he does not go back to the treating doctor. Moreover, sometimes the doctor fails to recognise the drug allergy and assumes some other cause for the patient's new complaints. The patients should also keep in mind that drug allergy is not the doctor's fault unless the doctor administers a drug inspite of the patient informing about the past allergy.

It is not always possible to predict drug allergy unless the person has developed allergic reaction to a certain drug in the past.

It is uncommon to develop an allergic reaction to a particular drug when a person is exposed to it for the first time. It takes time for the person to develop allergy which can vary from days to many years. In instances of allergy at the first exposure, often the person is exposed to related chemicals and drugs and gets sensitised and develops allergy when exposed to drugs which have similar chemical composition. Sometimes minute amounts of the drug can enter the body through milk (eg: if the cow is given antibiotics or other drugs).

Once a person develops allergy it is usually permanent and will develop allergy every time the person is exposed to it or to similar drugs. So it is very important to make a list of drugs one is allergic to and show it EVERYTIME he consults a doctor.

Combination drugs are very popular among doctors. But when a patient develops a drug allergy it will be difficult to know which drug has produced the allergy. For eg: a single capsule of Spasmo Proxyvon contains the following 4 drugs:

1 Dicyclomine Hydrochloride
2 Dextro Propoxyphene Hydrochloride
3 Acetaminophen
4 Chlordiazepoxide

Once a drug allergy is diagnosed the suspected drug must be stopped. If it is difficult to be certain which drug has produced the allergy and if the patient has taken multiple drugs, all drugs must be stopped.

For some drugs,test dose helps to know about the possibility of allergy. But sometimes test dose itself can produce a fatal allergic reaction.

Once the drug eruption has completely subsided it may be justified to do a challenge test with a suspected drug if the type of allergic reaction is mild (eg: fixed drug eruption) and if the suspected drug is likely to be used in future.

Mild drug allergies are treated as outpatient. Severe reactions will need admission to a hospital and powerful medications to suppress the allergy.

Occasionally successful desensitisation can be done and the allergy can be overcome. This is usually a difficult procedure and is attempted only for special situations.

A person who is allergic to a particular drug can also develop allergy to yet another drug.

By Dr Paul Neelamkavil
Skin Specialist
Amla Hospital
Trichur-680 553

From our files....

Pill users run risk of breast cancer

Young women who take birth control pills for more than four years run a significantly increased risk of breast cancer, according to a major British study published, Reports AP.

The researchers said that among women younger than 36 they found a 43% increase in the risk of breast cancer after four years of pill use and a 74% increase after eight years.

They called on doctors to tell women about the possible risks of breast cancer before they prescribe contraceptive pills, but they did not advocate avoiding oral contraceptives.

The study published in the prestigious medical weekly The Lancet, is the most comprehensive look at the pill and breast cancer ever undertaken in Britain and one of the largest in the world.

Ms Clair Chilvers of the Institute of Cancer Research in London, one of the authors of the study advised women to use only the lowest dose pill and that too for the shortest possible time.

Earliest studies on the relationship between the pill and breast cancer have reached conflicting results. In January, a US Food and Drug Administration committee of experts declared that recent research on possible links between the pill and breast cancer was inconclusive.

- The Statesman

Rheumatology unit of the Nizam's Institute of Medical Sciences, Hyderabad is conducting a continuous Medical Education Programme **'Rheumatology Update'** on 12th-13th of August 1989.

For more details contact:

Dr URK Rao
Organising Secretary

Journal Scan — August 1989

Various journals are scanned regularly at CHAI (Catholic Hospital Association of India) and articles that are of interest are identified and documented for the use of all health conscious people. Should you require any of the articles listed below, please write to:

Documentation Department
CHAI, PB No 2153, Secunderabad.

A nominal charge of 60 ps. per page plus Postage will be payable.

I Health Care and Medical Issues

1 AIDS — Whose Priority?
by D Bannerji
Health for the Millions
April 1989 P 9

2 Should we be tracking AIDS virus transmission in India
by Jacob John
Health for the Millions
April 1989 P 5-8

3 Aids and discrimination
by Jonathan M Mann
World Health
April 1989 P 14-15

4 Aids — Transmission and Prevention
Health for the Millions
April 1989 P 2-4

5 Guidelines for Nursing Management of People Infected with HIV virus
Nursing Journal of India
June 1989 P 151-153

6 The Limited Reliability of Physical Signs for Estimating Hemodynamics in chronic Heart Failure
by L W Stevenson
JAMA — INDIA
May 1989 P 143-147

7 Average daily blood pressure, not office blood pressure, determines cardiac function in patients with hypertension
by W B White et al
JAMA —INDIA
May 1989 P 157-161

8 The Papanicolaou Test for Cervical Cancer detection — a triumph and a tragedy
by Leopold G Koss
JAMA — INDIA
May 1989 P 165-171

9 Brain Tumours
by Atul Goel
2001
June 1989 P 58-59, 61

10 Burns
by Shailesh Vadodaria
2001
June 1989 P 56-57 and 66

11 Endoscopic Sclerotherapy
by Mrs Sreekumary D
Nursing Journal of Inidia
June 1989 P 147-148

12 Highlights of ICMR Research on Communicable Diseases (1987-88) Part I and Part II
ICMR Bulletin
March 1989 P 21-27 and April 1989 P 37-44

13 Autonomic Dysreflexia, a life threatening Emergency
by Mary Verghese
Nursing Journal of India
May 1989 P 134-135

14 The Indo-US Vaccine Action Programme: a recipe for disaster
by Praful Bidwai
Medico Friend Circle Bulletin
No 148 P 1-5

15 Therapeutic Environment: An inseparable Part of Good Bedside Care
by Chellamma Jacob
Nursing Journal of India
Jun 1989 P 157-158

16 Relationship between the work values and job satisfaction in Nursing profession
by Dr B Nagarathnamma
Nursing Journal of India
May 1989 P 125-126

17 Breastfeeding as a Family Planning Method
Mothers & Children, Supplement
Vol 8 No 1 1989

II Nutrition

18 Integrating Child Development with Health and Nutrition
Mothers & Children
Vol 8 No 1 P 1-2

19 The Nutrition Magician Integrating Nutrition into Basic Education
Mothers and Children
Vol 8 No 1 P 6-7

20 Child Nutrition: a Primary Health Care Approach Towards Health for All by 2000 AD
by Usha David
Nursing Journal of India
May 1989 P 117-119

21 Vitamin A Deficiency and the Eye
Community Eye Health
No 1 1989 P 4-5

III Social-Economic-Political Issues

22 Slum Improvement : Who benefits
by Meera Bapat
IDRC Reports
January 1989 P 24-28

23 National Housing Policy: The Implications
by Arun Kumar
Economic & Political Weekly
June 10, 1989 P 1285-1294

24 Article 21 — "Life" includes Livelihood
by M J Miranda
The Lawyers
April-May 1989 P 22-23

25 Traffic in Children and teenagers
by Bharat Dogra
The Otherside
March 1989 P 16-22

26 Tribal land rights in danger
The Lawyers
April-May 1989 P 27

27 Occupational health hazards of Bombay's sewerage workers
The Otherside
March 1989 P 46-53

28 The Policing of India
by K Balagopal
The Lawyers
April-May 1989 P 5-10

IV Womens Issues

29 Women and the Mass Media : The Need for Positive Projection
NIPCCD Newsletter
Jan — February 1989 P 8-9

30 Working with Mothers for change
by Ranjana Mehra and Angela Reidy
Community Eye Health
No 1 1988 P 10-11

31 Changes in Women's Employment in Rural Areas, 1961-83
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Training for Community Health Care: a medical college experience

Dara S Amar

(This article highlights some of the attempts made in St. John's Medical College, Bangalore, to orient Health Workers, including medical students, towards Community Health Care. The attempts have provided invaluable insights into this important goal. Being a Medical College, St. John's aims at providing the training component in the formation of health teams)

The following three articles are a spillover from our 'Community Health' issue of July 1989.

The Salient feature of our present programmes are:

1. Health Team Training

St. John's Medical College is in a unique situation to train various members of the health team under one roof. We are able to create a better understanding among the members of the team of each other's role. Medical students, Nursing students, Community Health Workers, Deacons, School teachers, Village mothers etc. are the various health team members who get their training at the college.

While the ideal objective is health and development, by virtue of the training and competence of the faculty, the emphasis has been on training in health. It is complemented by training in development by other organisations.

Community Participation

One of the main objectives of the community health programme of the college is the development of a participatory process wherein the villagers themselves are responsible for the financing of health care, supply of materials and manpower. This is particularly exemplified by the Mallur Health Co-operative Centre, a project initiated jointly by the college and the Mallur Milk Cooperative in 1973. Village Health Committees have been formed at each of the rural health centres and decisions are participatory in nature. A large part of the organisation of speciality rural camps are also done by the villagers. This is through their village youth groups and Mahila Mandals. Even in the training of the health workers including medical students, the village leaders are drawn in as resource persons.

Coordination with other agencies

We work in coordination with governmental and non-governmental health institutions. Programmes such as the Rural Mobile Clinics, Universal Immunization Programmes, integrated Child Development Scheme, National Social Service and Rural Internship Training are examples of such coordinated efforts. Our teaching faculty also act as guest faculty for various sister institutions and organisations involved in health and development.

Integrated Health Care

Villagers in India often resort to indigenous systems of medicine. The training at the college of the health workers including our medical students, includes training in Herbal medicine, Herbo Mineral Medicine, Acupressure, Homoeopathy and Yoga. Many of our graduate doctors working in remote rural areas, have substantiated the fact that there is need for integration with other systems of medicine as is being attempted at the college.

Health Education — A Priority

After years of experience in training health team members for the villagers, we feel there is a greater need to pay attention to training in health education. In the long run, it is the health education programmes that have paid off the maximum dividends. With this in view, health education receives a top priority in the training programmes conducted at the college. Innovative methodologies such as Child to child health education, rural mothers motivation programmes and rural school teachers health education training programmes are some of the important programmes organised by the college. The health

Announcement

VHAI is organising a five day training programme along with State Forest Research Institute, Jabbalpur on procurement of seeds of medicinal plants, ethno-botanical aspects, cultivation techniques and processing. There will also be a visit to natural forests where medicinal plants are used as spices, food and medicines by local inhabitants in the last week of September, 1989.

For further details contact:

Programme Officer, TSM
VHAI 40, Institutional Area
South of IIT, New Delhi 110 016

education methodologies include the development of local audio-visual aids in the form of simplified demonstration models using locally available materials rather than sophisticated charts, photos, films etc. The materials for most health education sessions are prepared by the village school children and village school teachers. Nutrition education involves teaching the village mothers to use their own traditional recipes in a nutritionally correct manner. The aim here is to strengthen the existing traditional diets which are often nutritionally far superior to the imported diet from the urban areas, greater stress is laid on the use of local cereals, pulses etc., along with promotion of breast feeding as well as local weaning diets for the children.

Sensitisation to the rural milieu

In order that all the trainees at St. John's, including medical students and nursing students, must understand the dynamics of rural life, special training programmes are organised on a residential basis at our rural health centres. These rural residential training programmes stress on understanding the various factors which govern rural life and in turn the health of the people. Areas such as agriculture, animal husbandry, small scale industry, customs and traditions, housing and environment, role of women in society, food practices etc., are all studied through field projects by the various groups of trainees. The training programmes are thus oriented to sensitize the health worker to the various aspects of rural life and how each of these aspects is related to the total health of the villagers.

Reaching out

Considering the resources and facilities available for health care at St. John's it is quite natural to try and reach out to the underserved areas using the available resources for health care. Rural camps in the field of eye, ear, nose and throat, skin, teeth, child health and General Surgery are conducted in the villages. Methodologies have been evolved at the village level to ensure asepsis and follow-up for post operative care through the use of trained school teachers, youth volunteers and traditional healers. Specialist care is thus made available at the village itself. In the bargain, the faculty have gained confidence that it is possible to reach out with even advanced health care to the villages. These exercises have also proved to be an important force of cohesion among the various hospital departments and Community Medicine Department. The rural mobile clinics further carry the health care facilities to over 12 health centres, spread through three Community Development Blocks covering over 300 villages. In this process of rendering services to the unreached, our trainees (through the participation in such programmes) gain invaluable experience.

Understanding health and disease holistically

In order that our health team trainees do not dichotomise health care into various compartments, the training programmes focus on families rather than individuals. Through programmes such as the Clinico-social case study and field family health care projects, the trainees are made to understand the cause and consequence of disease in terms of multiple factors rather than only the clinical signs and symptoms of the disease affected person. Emphasis is laid on the planning and management of health care at minimal cost. Our graduates would also be cost conscious and make their programmes financially self perpetuating in the village communities rather than make the people dependent on charities.

Serving the urban under-privileged

Urban slums in and around Bangalore, are also served by the Medical College. Health programmes such as immunization coverage against the major killer diseases for children, maternal and child health clinics for expectant mothers and school health programmes, are some of the urban based health activities. In addition, the Medico-Social Unit also aids in counselling for alcoholism, drug addiction, juvenile delinquency etc.

Continuing education

Although basic training in health care is imparted to various categories of health workers, it is important a follow-up is done on the utilisation of the knowledge gained at St. John's. For this purpose, several methods are followed. At the professional level, doctors can seek elective posting in selected specialities for further skill enhancement. Regional colloquia are organised for sharing professional experience among Community Health Workers and Rural doctors. This provides an opportunity for learning from each other. Continuing education is also provided by St. John's for health agencies from afar. The United Planters Association of Southern India (UPASI) works in collaboration with the Department faculty to train their Medical Officers, Nurses, Compounders and even their Estate Managers in the field of health care and health management. Periodical newsletters also act as a means of networking for graduates and community Health Workers working in various parts of the country.

Development as part of health

Extension training in agriculture, water resources and veterinary care for village youth, are part of field training programmes given in rural health centres. The stress is on youth motivation and training in these areas, especially among the rural unemployed youth. Functional literacy programmes and vocational guidance are some of the other services rendered in the villages. Our health trainees, including our medical students participate in these developmental programmes under their National Social Service activities, which is coordinated by the department faculty.

Conclusion

All the programmes are updated constantly, depending on the feed back received of their effectiveness and efficiency. The emphasis is on training and health education rather than mere provision of multiple services. This ensures that whatever have been the programme inputs, the results will be long-lasting, self perpetuating and effective. ■

A REPORT FROM KERALA

Basic Health Communities

Fr Edwin MJ

Building communities is yet to become an integral part of the mental concept of a good many of our community health workers.

What is a community? Or: what are the characteristics that make a mass of people into a community? We need to have consensus of what we mean by community when we speak of community health. Some of the guiding principles of a community are:

1 A community is not a crowd. It is not a transient aggregation of passers-by. Community has certain amount of permanency.

2 A community presupposes commitment to one another. And this commitment is actually the most identifying factor.

3 A community has a shared vision. Consensus on objectives holds the community together. In this sense a community works together.

4 A community means its members feel with one another. A community, devoid of feelings, is not yet a community. It may be just a task force.

5 A community celebrates together. It brings imagination, feelings and art to play in the collective affirmation of persons and events and mysteries of life.

6 A healthy community heals not only by the explicitly therapeutic programmes but also by its process of affirmation and the strength of the relationships. Community is an antidote against alienation, loneliness, insecurities and the resultant psychosomatic problems.

7 A liberating community, consequently a healing community is a participating community. Participation in decision making is what makes a mass into a people. When people decide together they become conscious of their dignity as partners in progress, as subjects and equals and not just objects and the ruled.

8 A community that is empowering, hence liberating and healing, makes its members not only to decide on the choice of various solutions proposed but also to see the problems together. Knowledge is power. A community that has been enabled to identify the problems and constantly to evaluate them is an empowered community. Few will dare to exploit that community.

9 A community that is effective is necessarily .small. This follows from our earlier principles. A big community can neither offer powerful relationships nor scope for participation. Only a fellow with a big voice can make himself heard in a big village. Small men feel too small to speak up in bigger structures.

10 A community that intends to have wider macro level im-pact ensures linkage with other similar communities through representative structures at various levels. This ensures both the smallness of the community and the wider level effective action with effective grass-root participation.

11 A healing community takes a holistic view of health that includes the various social, economic, environmental and other factors affecting health.

Do we have such communities? Such structures or infrastructures that would make community health action more sustained and more participatory at grass-roots?

Until we have such communities whatever we call community health programme may at the most be a rural extension programme and not real community health action.

Community health is not just a programme for the people; it is also something of the people and by the people.

They say examples speak louder. Let me share with you an attempt where we try to integrate the community structure aspect or the infrastructure aspect, into community health action.

We call this project *Basic Holistic Health Communities*.

BASIC HOLISTIC HEALTH COMMUNITIES

Our first step here is to start organising basic communities of thirty houses each. We have altogether 170 such basic communities now.

These communities are geographical, ensuring that nobody is left out. This geographical aspect ensures also a permanent identity for the communities. As long as the houses are in a given geographical area the communities are also there. Even if for some reason or other some communities or all the communities in a village remain dormant for sometime the day somebody wakes them up they come alive, ready to jump into action.

These communities meet once a week or twice a week or even oftener as the case may be. These meetings are either for prayer, or for celebration, or for nonformal education or for discussions on problems affecting them and so on.

Five representatives from each community make the representative general body of the village. One representative from each community makes the executive body of the village.

Representatives from the villages make the zonal representative bodies, the general body having a representative each from the communities and executive committee having village representatives at the ratio of one representative for five communities. What is discussed below that is at grass root communities, reach up to the top through their representatives at various levels and what is discussed at the top is reported back to the basic communities.

Our system of handling finance in one of these villages called Kodimunai, will make this accountability to the grass roots clearer. Here the Treasurer is free to spend at his own discretion upto Rs. 50.00 for emergency expenses. When the President and the Treasurer decide together they can spend upto Rs. 100.00. The Executive Committee of the village can spend upto Rs. 500.00. The representative general body of the village having five representatives each from the communities can spend upto Rs. 1000.00. If it is more than Rs. 1000.00 the representative general body of the village makes the decision and sends it for referendum among the basic communities. The decision is not carried if more than half the number of the communities fail to support the decision.

This type of two way communication helps for sustained action. It is enough for anybody in any of these 170 communities to remember the problem and the issue will come alive again.

Once we build these basic communities we use these communities for nonformal education on health concerns. They become grass root forums for health motivation, participation through decision-making evaluation and follow up.

Here the care is taken not just to propose solutions but more especially to make them see the problems themselves so that through the process of ongoing situational evaluation they are enabled to remain empowered.

This we do through various processes. One such programme is our holistic health orientation camps in basic communities. This will be a week long programme where trained volunteers help conduct health discussion sessions in the basic communities with the help of a few structured community-discussion exercises. Each community will be encouraged to do also creative assimilation programmes: whatever they learn in the discussions in an evening is translated by the community into cultural programmes to be staged in the community next evening. The village level celebration that will take place the last day will bring to a wider audience the best of the cultural programmes produced by these communities. This health camp normally will include an exhibition and also half a day or one day seminars to various categories of people with or without audio visual programmes. Wherever possible we would also include house visiting programmes and a health survey of the village.

In addition we prepare discussion themes and circulate them among the basic communities. These discussion themes are structured in such a way that they elicit participation of the community. Each theme contains an initial activity related to the theme, questions to elicit participation, a deepening process through the points given, questions leading to community decision, and a concluding activity by way of a song or so.

Our next process will be to make these communities accept responsibility for their own health care. This we intent to do by way of promoting a holistic health insurance scheme run by the people themselves.

Our health insurance programme is expected to consist of the following components: non formal education through basic communities, collection of funds through basic communities, primary health care through village level representative body and its appointees, secondary and other levels of health care through zonal bodies and the referral centres chosen by them.

Unfortunately, even the example given is not yet a realised dream. Well, this is the vision. We are not yet sure how far we will reach. May be in spite of our optimism we may reach only half way. But we feel even that would be worth the efforts, as it would be a step in the right direction. ■

Health of people is wealth of Nation

Dr. Jacob Cherian
Director & Chief Surgeon
Christian Fellowship Community Health Centre
AMBILIKKAI, Tamil Nadu

The present National scheme of Primary Health Centre is not so much a success as it was expected to be (World Health Organisation Report). Still thousands of people in our country die of infectious conditions, poor nutrition and bad sanitation. Alternative and appropriate systems of delivery of Primary Health Care have been explored, tried and met with success at many many places.

Christian Fellowship Community Health Centre at Ambilikkai trained Multipurpose Community Health Workers for the first time in our

country as early as on 1958. The training was reorganised into a regular course in 1972 with Government recognition. In those days we used to call them *Community Health Guides*. The training was much appreciated and it was crowned with success. The Government of India accepted it as Multi Purpose Health Workers scheme later on. Community Health Guides (M.P.H.W) working in the field of Health and Medical officers, are doing a wonderful job. In our area 48 community Health Guides, covering 1.5 lakhs of rural population, are doing dedicated work. They have achieved remarkable results during the last 25 years, e.g, Infant mortality rate was brought down from 130 per 1000 to 69 per 1000, birth rate from 31 per 1000 to 19.5 per 1000 and general death rate from 18 per 1000 to 9 per 1000. Almost all infective conditions are wiped out from the area. We work through a network of mini Health centres. Two Multi purpose health workers and three village health workers work in each mini health centre covering 5000 population.

Similarly in Voluntary sector, other institutions like the one in Jamkhed are training and placing simple illiterate village women as Voluntary Health Workers in their project. They too have achieved very good results. This was also recognised by World Health Organisation. Training and organisation of Mathersangams and Balwadies are other examples of success-ventures and alternative system piloted by voluntary sector though it may not give the full coverage. Delivery of Health through Health insurance by Voluntary Health Service, Madras is yet another example of success story in the field of health-delivery by adopting a different system using lay-first-aiders.

In our Community Health Field, even leprosy program is integrated with Multi Purpose Health Worker's service. The leprosy/paramedical workers are expected to detect the new cases which have become comparatively much less in our areas. Once detected and diagnosed, cases are held (followed up) by Multi Purpose Health Workers (C.H Guides). Soon we are hoping the National Leprosy Eradication Program will be integrated with Community health net-work, which the Government of India is contemplating to do in 1992. Since our Community Health Guides are well experienced and quick in the delivery of Health Services and also many of the targets to be achieved by the turn of the century (2000 A.D) alloted to them in the limited population (2500 population for each Health Guides) are already achieved, they are turning their attention towards socio-economic development, as health is very much dependent upon socio-economic development.

Limitation of funds is the greatest handicap of any Voluntary Organisation. If dedicated service of Voluntary Organisation could be coupled with adequate and timely supply of material and monetory resources, great things could be achieved in any field, especially in the important fields of Health and Development.

In the usual development process in any country, one could see that Voluntary pilot modules or models, research and experiments, lead the nation on the right track. A good community Health system based on mother and child care, sanitation, immunization, nutrition, control of population growth and proper care of minor ailments, should be further boosted by Health Education and adult Education, and economic development. Early five-year plans in our country were concentrating on building up big hospitals, Medical colleges and post-graduate teaching institutes and, also much thrust was given on green revolution. This was a good move in the right direction but side by side industrial revolution should have been given its due importance. Thank God the trend of general policy of our Government in the latter periods of five-year-plans is set in the right direction, towards *Balance economy, Community Health* and *Control of population*. Adult education, Industrial revolution (both small and big) and Green revolution are pushed to the forefront. Soon it is hoped that craziness for sick palaces (Big Hospitals) and urban Medical Colleges on the part of the government will be replaced by Community Health Projects, Adult education and family welfare programmes and socio-economic and agriculture-promotion activities.

It is a pity that still our country is not able to prevent its citizens becoming victims of drought and flood by developing ecology (Social forestry) and preservation of rain water and connecting all rivers with canals after building sufficient dams and also building bunds on all the banks of rivers. Vast population already existing is an asset to work up such herculean tasks. Why do we think here of those areas of economic development? Because unless socio-economic condition is improved, health of the people cannot be promoted beyond a certain limit or level. Unbalanced race for scientific achievements and material targets are also equally dangerous unless it is balanced with selfless service, deep spiritual mottos and motives and also our hunger and thirst after high moral values. ■

A Reminder

Human vanity can best be served by a reminder that, whatever his accomplishments, his sophistication, his artistic pretension, man owes his very existence to a six-inch layer of topsoil — and the fact that it rains.

FROM INTRACELLULAR TO SOCIETAL RESEARCH

The Research and Research Centres given below is a sub-section of the July 1989's Cover Story "Community Health Scene in India"

The new approaches to Community Health evolving in the country have shown that a very important but neglected area is research into socio-economic-political-cultural factors that affect health and disease and determine the nature of health care development as well as the response of the people.

Medical research in India has been preoccupied as in other parts of the world with intracellular or molecular biological roots of disease and much of the research efforts sponsored by ICMR and other national and regional, government and private research centres has been in this direction. Most of it has been imitative research, 'we too have done it in India' sort of focus and there is the continued myopic view that the future of health in the country will be determined by the discovery of a few more vaccines and maybe the odd drug or contraceptive. This technological focus has blinded us to the fact that the world- over health care action initiators are proving again and again that the clue to health of the people is in greater societal problems in the wider social reality and to study them in a socio-epidemiological context to determine bottlenecks and to evolve creative innovations is the need of the hour. Some ICMR institutions like the National Institute of Nutrition in Hyderabad, National Tuberculosis Institute in Bangalore and the Vector Control Research Centre in Pondicherry have treaded the path of societal research and made unique contributions to Primary Health Care and Community Health but these are the exceptions to the overriding rule.

Have the NGO Health action initiators fared better? Is anyone interested in health related societal research in the country?

The development of NGO health research units keeping in tune with and exploring in depth issues arising out of the emerging Community Health movement are few but these are atleast positive signs.

The Foundation for Research in Community Health (Bombay) the Action Research in Community Health, Mangrol (Gujarat), Society for Education Research and Training in Health, (SEARCH) Gadchirole (Maharashtra), Community Health Cell (Bangalore) are examples.

A few of the larger NGO Health Projects like CHDP, Pachod, (Maharashtra) SEWA-Rural (Gujarat), CINI (Calcutta), Jamkhed (Maharashtra) and RUHSA (Tamilnadu) have also begun to take up some key research issues but this whole interest is still in a nascent state.

The Social Medicine and Community Health Department at JNU is the only other national centre which is undertaking societal research relevant to Health Care and Health policy issues. The medico friend circle's efforts in providing counter research expertise in the Bhopal disaster and its aftermath was also a beginning of this new trend.

Much needs to be done by both governmental and non-governmental groups, if the emerging 'Community Health' approach and movement has to be put on a sound researched social and epidemiological basis. But this needs people who see *Research* as an important need. It also needs innovative 'researchers' who will be willing to learn existing health care research methodologies and then creatively adapt it through interactive, participatory approaches to study the dynamics of Community Health care and the evolving movement.

With the preoccupation with 'microscopic research' are such 'baloonist researchers' available for the task?

NGO Research Centres in Community Health: Some Profiles

★ Foundation For Research in Community Health, Bombay, (Maharashtra), Estb: 1975

Non-government research centre which undertakes conceptual as well as field level research to study, analyse and wherever possible influence the cultural, economic and political factors that affect the health of the people.

Initiatives and studies include evolution and study of low cost community based health systems in Uran and Mandwa. Socio-economic study of rural transformation; Women's work fertility and access to health; PHCs in Maharashtra; Health Service projects (NGOs in Maharashtra) Health Financing in India, Stigma against leprosy, Alternative school health project, Facilitation of ICMR-ICSSR Joint study group on Health for All an alternative strategy.

★ Action Research in Community Health — (ARCH) Mangrol, (Gujarat), Estb: 1978

A group of individuals of diverse background got together to establish this centre in the eastern tribal belt of Gujarat to study the developmental process using the health of children and women of the poorer sections of society as the guiding thread.

The approach was to get involved in the complex process of development (ACTION) and to study critically the health of the community and the processes which results in ill health (RESEARCH).

Field based strategies evolved were programmes to attack prevalent diseases, methods and skills of community diagnosis and intervention, training of health assistants and part time community health workers, non-formal school and finally a just and human rehabilitation policy for tribals displaced by an ambitious irrigation project in the area.

★ Society for Education, Awareness and Research in Community Health (SEARCH), Gadchiroli (Maharashtra) Estd: 1984

This Society has adopted Gadchiroli district, a predominantly tribal district in Maharashtra, for its education, awareness building and research activities. Presently they have long term projects on the study of Active Respiratory Illnesses in children; and a study of women's health focussing on the community. The Society also seeks to evolve methods of intervention which will be at the level of the multipurpose workers of the government PHC.

Due to its increasing community involvement the Society has also begun to explore the dynamics of women's health and other related issues, the forest issues affecting tribal and the illicit liquor issue in its community context. It has also tried to modify the health care/medical practices at the District level to make it more responsive to the needs of the people's situation.

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Women's work fertility and access to health;

PHCs in Maharastra;

Health service projects (NGOs in Maharashtra);

Health financing in India;

Stigma against leprosy;

Alternative school health project;

Facilitation of ICMR-ICSSR joint study group on Health for All an alternative strategy.

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INFORMATION FOR CONTRIBUTORS

Submitting the Manuscript

The St. John's Medical College Journal of Medicine accepts scientific contributions from all fields of modern medicine and from all institutions and health care professionals. The journal is a quarterly publication which will be published in March, June, September and December. It is owned by the C.B.C.I. Society for Medical Education and published by the Principal, St. John's Medical College. The journal is a part of it's commitment to continuing medical education. Articles and all editorial communications should be addressed to the Editor, Alumni Office, St. John's Medical College, Bangalore-560 034.

Original articles, short case reports and review articles are accepted for publication. Review articles and editorials are usually on invitation by the Editorial Board. Letters to the Editor will be considered for publication only if received at least six weeks prior to the next publication.

PREPARING THE MANUSCRIPTS

All manuscripts should be submitted in 3 copies (including the glossy prints). They should be neatly typewritten on bond paper, one side of the paper only, with double spacing and margins of at least 2.5 cms. Please be sure to include an accurate address for editorial communications and for reprint requests.

A brief abstract of the material of the paper should precede the body of the paper, to run no more than 500 words. INDEX WORDS for the purpose of indexing and computer programming, should appear on the same page.

The format for articles suggested is as follows: INTRODUCTION, MATERIALS AND METHODS, RESULTS, DISCUSSION, REFERENCES.

Measurements should be in metric system.

ILLUSTRATIONS AND TABLES

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EDITORIAL

LIVER SURGERY : PRESENT AND FUTURE

INTRODUCTION

Till recently the liver, despite being the largest organ in the body, remained elusive. Its functions were inadequately understood, surgery was regarded as foolhardy or unnecessary, and the diagnosis, when possible, was an academic and often fatalistic exercise. While hepatitis was, and remains the commonest affliction, the last two decades have seen significant advances in the diagnosis and treatment of focal lesions of the liver.

Asian countries have an endemic prevalence of the hepatitis viruses, and a correspondingly high incidence of both hepatic malignancies and cirrhosis. As populations in these countries are high, primary hepatic cancer is now the malignancy affecting the maximum number of people in the world. Not surprisingly, a number of the advances in liver surgery have come from countries of this region.

With the establishment of liver transplantation in the eighties, the future promises to witness increasing attempts to treat disseminated diseases of the liver like cirrhosis, acute and chronic liver failure, and congenital disorders of metabolism. While the majority of digestive surgeons seem reluctant to subspecalize, it is time to take stock of liver surgery. Along with immunology and virology, the study of liver diseases represents the cutting edge of science today.

ANATOMY

The segmental anatomy of the liver as outlined by the French surgeon Couinaud forms the basis of all liver surgery, and is now the standard format used in all radiological and surgical descriptions.

The liver is in reality two livers - the right and the left - each having four segments, which are numbered serially from I to VIII starting with the caudate lobe posteriorly and going from left to right. Each segment possesses its own arterial and portal venous supply, and is drained by its own bile duct. The venous drainage to the inferior vena cava is, however shared by adjacent segments : the left hapatic vein running between segments II and III of the left liver, and the right hepatic vein running between the anteriorly located segments V and VIII, and the posteriorly located segments VI and VII of the right liver. The middle hepatic vein runs in between the right and left livers, and its course can be marked on the anterior surface (at surgery) by an imaginary line running from the gall bladder fundus in front to the inferior vena cava behind. The hepatic veins are easily visualised on ultrasound scanning, and help to precisely localise focal lesions of the liver.

The importance for the surgeon of recognising the segmental nature of the liver, lies in the fact that while it is easy to surgically remove portions of the liver, what is much more difficult is to ensure the viability of the liver tissue that is left behind. It is deceptively easy, during a major liver resection, to "get lost" in the liver substance and end up compromising the vascularity or the venous drainage of the remaining segments.

For the physician, a familiarity with the segmental anatomy is necessary for a meaningful surgical referral. A known cirrhotic, for instance, who decompensates with the development of a liver tumour, would probably not be a candidate for surgery if more than two segments are involved.

IMAGING

With the knowledge that most focal lesions of the liver are not amenable to medical therapy, the trend in the 80s has shifted to diagnosis by imaging rather than histopathology. It is now possible to achieve a reasonably accurate pathological diagnosis while delineating the anatomical and physical characteristics of the lesion by ultrasound and contrast enhanced CT scan. Biopsies are at best a hit or miss affair, and even if successful in obtaining enough tissue for a pathologist to commit himself are an academic exercise best reserved for patients who are not candidates for curative therapy. This philosophy is outlined in Fig. 1.

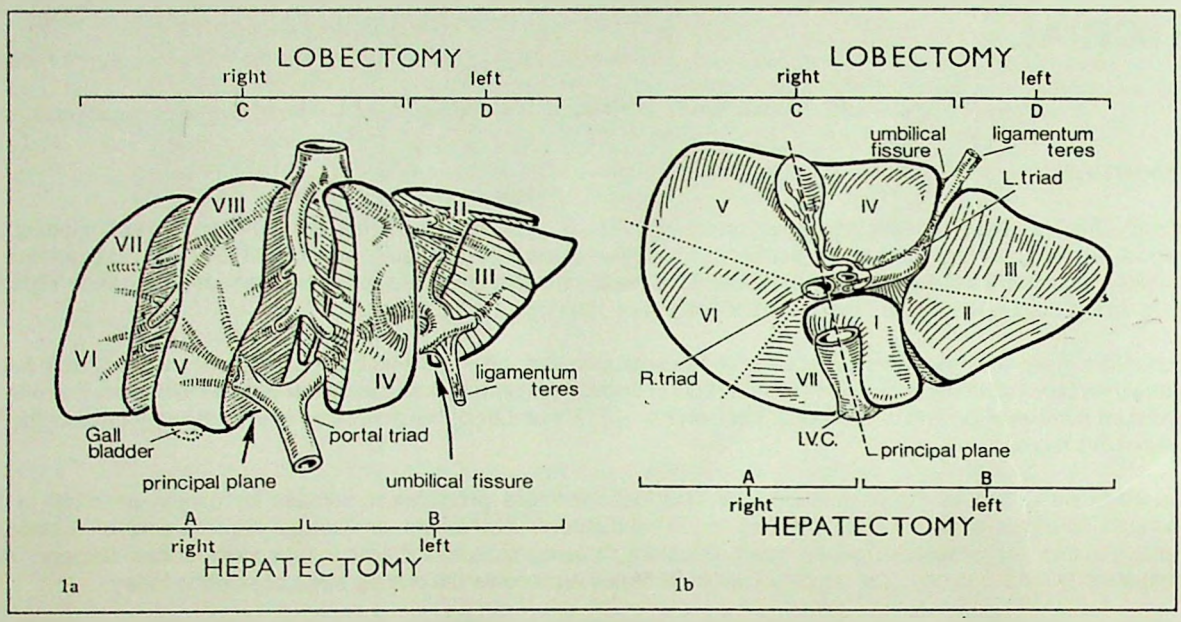

Fig 1 : Segments of the Liver

THE RESECTIONS

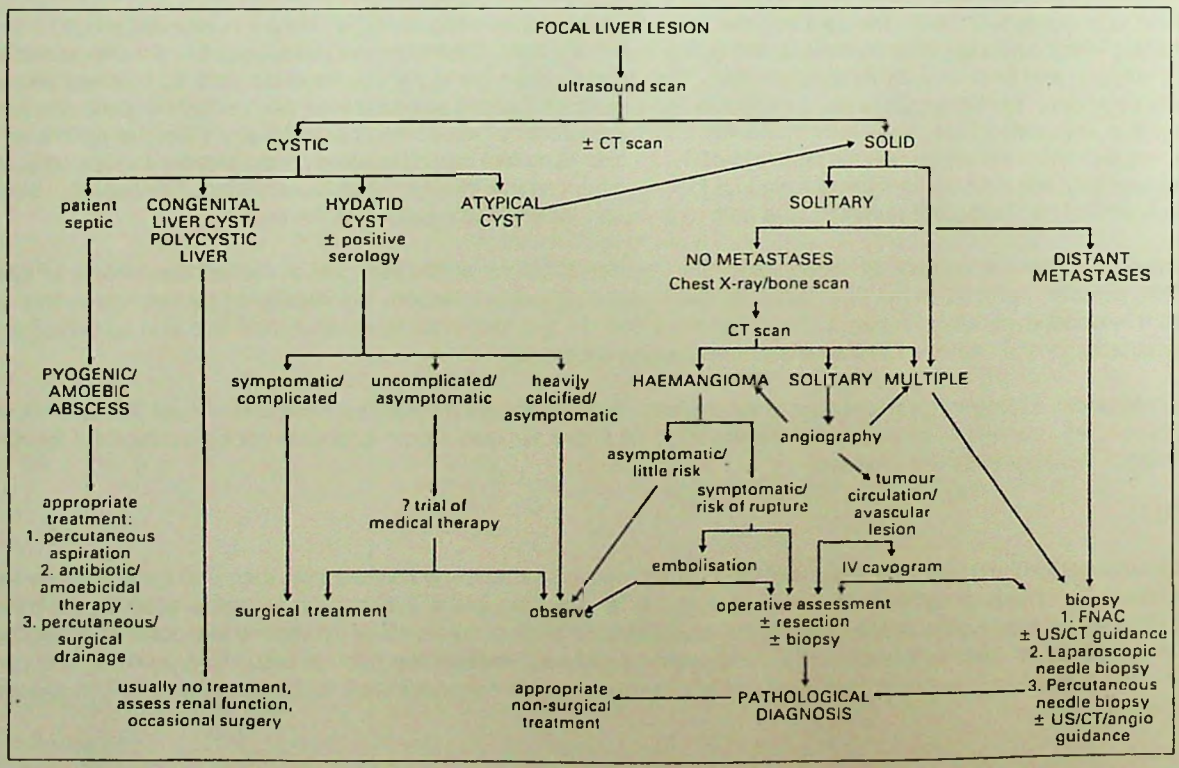

Fig 2 : Investigation of a focal liver lesion

Based on the hepatic segmental anatomy, the liver resections are (Fig.2) :
LEFT LOBECTOMY: Segments II and III, i.e. the liver tissue to the left of the falciform ligament.
LEFT HEPATECTOMY: Segments II, III and IV, i.e. the liver tissue to the left of the cholecysto-caval line. Segment I (caudate lobe) is included when required by the anatomical extent of the lesion.
RIGHT HEPATECTOMY: Segments , V, VIII, VI, and VII, i.e. the liver tissue to the right of the cholecysto-caval line.
EXTENDED RIGHT HEPATECTOMY (syn.: RIGHT TRISEGMENTECTOMY): Segments V, VIII, VI, VII, and IV, i.e. the liver tissue to the right of the falciform ligament.
EXTENDED LEFT HEPATECTOMY (rarely performed and hazardous) Segments II, III, IV, V and VIII i.e., the liver tissue to the left of the right hepatic vein.

Apart from the above mentioned standard resections, resection of segments both singly and in combination have been described, especially in the mangement of cirrhotics who may have more than one tumour, and are unable to withstand a standard resection.

Liver resection may also be required for bile duct tumours infiltrating the hilar structures supplying one half of the liver, or for direct infiltration of the liver parenchyma at the hilum. The difference from the same resection performed for a primary hepatocellular lesion is that in this situation the patient is jaundiced and the resection removes a sizable mass of normal liver tissue. The physiological derangements in the operative and postoperative period are therefore much worse.

PERIOPERATIVE MANAGEMENT

Child's criteria constitute a time honoured method of assessing the degree of disability of a patient with liver disease. While Child's C patients are an easily recognised group at major risk for any kind of surgery, risk allocation in better preserved patients is an area of ongoing research. BSP retention, glucose tolerance test, measurement of Factor II and V levels and estimation of the amount of "cytochrome a" in a liver biopsy specimen, each have their proponents. It is becoming increasingly clear, however, that perhaps the most sensitive prognostic indicator is the patient's history. Chronic liver disease resulting in significant impairment of the patients lifestyle, with dimunition of intelligence and physical vigour carries a grave prognosis.

Resection of a large mass of liver tissue is well tolerated only if at least 2 normal segments of liver are left behind. The diseased liver is extremely sensitive to ischemic injury which may follow the impairment of liver blood flow under anaesthesia or result from surgical interruption of the blood flow to whole or part of the liver. Clinical manifestations are subtle, and may take the form of respiratory, renal and /or cerebral dysfunction. Hypoglycemia, hypoalbuminemia, hyperbilirubinemia, abnormal clotting, alkalosis/acidosis and electrolyte abnormalities are associated. Intensive care after major liver surgery involves monitoring of all haemodynamic and metabolic parameters.

Based on this mass of data decisions regarding the use of fluids, blood, blood products, dialysis and ventilatory support and combinations of drugs like dopamine, dobutamine, nitroglycerine, nitroprussided and noradrenaline, to name only a few, have to be made. Parental nutrition is often required since there may be problems associated with the use of the G.I. tract for enteral feeding.

Perhaps the most dangerous of all complications in the acute phase is the rapidity with which these patients tend to develop severe hyponatremia, and its dreaded sequel of cerebropontine myelolysis. The immunological impairment that accompanies liver surgery requires a major input from the microbiologist - an important member of the clinical team - who decides the antibiotic strategy, and the surveillance for viral and fungal and resistant bacterial superinfections, that are associated with the use of broad spectrum antibiotics.

FUTURE TRENDS

There is now sufficient evidence on long term follow up to justify an aggressive approach to liver tumours - both primary and metastatic. The future will see increasing attempts to offer resection to centrally located liver tumours, and to tumours associated with cirrhosis, which are presently regarded as technically inoperable.

Initial attempts to resect massive central liver tumours in children under cardiopulmonary bypass with hypothermia have been successful. The experience with liver transplantation has led to large and multiple tumours in adults being managed by excising the entire liver, and on the back-bench resecting the tumour and reconstructing the liver before re-implantation.

There is renewed interest in transplantation for tumours of the liver and extrahepatic bile ducts. While the former is performed under chemotherapeutic cover, the latter is being tackled with "cluster transplants" in which the liver, pancreas and duodenum are transplanted as one complex following total and radical resection of the tumour which is usually slow growing and slow to metastasis. Improvements in immunosuppressive drugs which selectively suppress organ rejection while leaving unaffected the ability of the body's defences to cope with distant micrometastases would further open up this field of surgery.

Orthotopic Liver Transplantation promises to find increasing application in the future. Congenital diseases like haemophilia are cured by transplantation, and in future liver transplant may be offered to such patients despite the fact that the liver is not "diseased". Fulminant and subhepatic failure irrespective of cause, are an increasingly common indication for transplantation. To keep the patient alive till a suitable organ is available, the diseased liver is excised and the patient supported with intensive care until transplantation, which is usually performed within 48 hours.

The chief limiting factor is the increasing shortage of cadaveric organs, and as the demand for liver transplants is only likely to increase, attempts at xenografting are being made. The liver enjoying as it does an immunologically favoured status, would be one of the first organs to be transplanted from other species if advances in immunosuppression permit.

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DERMATOLOGY SYMPOSIUM - ALLERGY

FOREWORD

Allergy Diseases have not yet achieved their due importance. Although Allergy Diseases, are rarely life threatening they have a considerable impact on health and development. Further, there is increasing evidence that the prevalence of these diseases is steadily increasing in the population. Allergy Diseases are of high complexity both in their clinical manifestation and their etiology. One of the main intentions of this symposium therefore is to present information on various aspects of these diseases in order to understand the causative factors. In addition, it is to demonstrate tests that help diagnose some of them.

To this end we have an excellent faculty both invited and from our institution to deliberate these matters. I do hope that the deliberations of this National symposium will generate lasting interest among the participants. More importantly I hope that for the future, efforts of this symposium will establish a rational approach in the field of Allergy in our country.

I would also like to thank my colleagues for their support and co-operation in making this symposium a success.

Dr. S.C. Rajendran, MD DVD
Organising Secretary

DERMATOLOGY SYMPOSIUM - ALLERGY

ETIOPATHOGENESIS OF BRONCHIAL ASTHMA

Abstract

Bronchial asthma is a common cause of respiratory morbidity. Central to the problem of asthma is reversible airways obstruction which is triggered by a variety of stimuli such as allergy, infection, excercise, climatic changes, emotional factors, drugs and others. In recent years, there has been rapid increase in understanding of the phenomenon of airway hyperreactivity both in terms of physiology and immunology. The concept that asthma is related more to inflammatory changes in the airways rather than to 'bronchospasm' alone has been appreciated. The role of the chemical mediators in the the immediate as well as the Late Asthmatic Response (LAR) has been elucidated elegantly. This aspect of improved understanding is important not only academically but also at the clinical level. The role of the cellular factors is demonstrated by the aid of techniques such as, bronchoalveolar lavage. Measurement of airway responsiveness and its relationship to the severity of asthma has been important in formulating therapies with improved outcome in cases of patients.

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MECHANISM OF ANTIGEN RECOGNITION BY LYMPHOCYTES

According to the Clonal Selection Theory, each lymphocyte is precommitted to recognise a specific antigen. This is true for both T- and B- lymphocytes and the phenomenon of commitment takes place in thymus for T-cells and in bursa of Fabricus/bone-marrow for B-cells, involving gene rearrangements to generate diversity.

On B cells, membrance bound immunoglobulin-M (mIgM) is the recognizing molecule. On T cells, the T cell receptor is/the heterodimer or CD3/Ti complex. In both T and B cell receptor molecule, the variable region is responsible for the specificity of antigen recognition. In addition, accessory molecules aid in antigen recognition for T cells.

There is a major difference in antigen recognition between T and B cells. sIgM behaves similar to serum IgM, binding specifically to antigenic determinant or epitope. In other words, B cell receptor binds to antigenic epitope directly, whether such an epitope is in the soluable form or as part of virus or bacteria, needs elucidation. On the other hand, T cell receptor can 'see' the antigen, only when it is processed and presented in conjunction with major histocompatibility complex (MHC) of class I or class II molecule. The antigen processing and presentation is performed by macrophages and B cells, in general called APC or antigen presenting cells.

One subpopulation of T cells-CD8 positive cytotoxic T cells recognise the antigen (eg., cell surface bound viral antigen) in conjunction with class I molecule, resulting in specific killing of the target cells.

The major event in T cell biology is the clonal activation of T cells by specific antigen. This phenomenon is MHC class II restricted. As a result of the interaction between CD3/ Ti complex, and epitope-class II molecule, the T cell is activated ultimately causing such T cells to proliferate. In this process, new molelcules (Interleukin-2 receptors) are expressed and growth factors like Interleukin-1 (IL-1), and IL-2 and Interferon are synthesized by the interacting cell populations. Further, we have been able to explain T-B cooperation or T cell help at molecular level. The present understanding on the T and B cell recpetor; antigen processing and presentation by APC, early activation events, growth factors will be described.

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PRINCIPLES AND STRATEGIES IN THE CLINICAL MANAGEMENT OF BRONCHIAL ASTHMA

When one considers strategies of any kind, the first step is to make the participants fully aware of the action and its consequences. This is of vital importance when one embarks on the treatment of a disorder like Atopic Bronchial Asthma, steeped as it is in myths and misunderstandings. The patient must be educated as to the true nature of the disorder, the present therapeutic options and their implications in order to ensure their utmost co-operation before embarking on any kind of drug treatment.

The therapeutic options are few, but used judiciously can control the symproms in virtually all patients. The available drugs can be divided into the following groups.

1. Phospho-diesterase inhibitors.

2. Beta-adrenergic agonists.
3. Atropine derivatives
4. Corticosteroids
5. Others eg: Sodium cromoglycate and Ketotifen

The use of theophylline group of drugs (principal phospho-diesterase inhibitors) in bronchial asthma is controversial. However, other functions ascribed to these agents have recently revived their use, particularily as adjuvants to the Beta-adrenegic agonists.

Beta-adrenergic agnoists and Ipratropium Bromide (atropine derivate in common use today) are the most widely used agents for treating bronchia asthma and for status asthmaticus today because of the ability to deliver these agents by the inhalation route as well as subcutaneous route in the former. Aerosol therapy is preferred because of the immediate onset of action and small quantities of the drugs required which consequently produce negligible systemic side effects - a strong plus point compared to the oral route. Aerosols have revolutionised the treatment of acute and chronic bronchial asthma and are today the firest-line drugs in this disorder.

Corticosteroids are the prime drugs in acute exacerbations where beta-agonists and theophyllines fail to control the symptoms, and must be used rather than avoided. Their usefulness far outweighs their unecessarily dreaded side-effects. These agents in the aerosol form or as rotacaps to be inhaled are the major drugs for prophylaxis both in adults and children, though personally I prefer sodium cromoglycate for prophylaxis in children. Ketotifen, though orally administered, has no therapeutic advantages over sodium cromoglycate and because of its tendency to produce drowsiness has virtually gone out of favour of most therapeuticians.

A brief therapeutic outline can thus be drawn as follows:

1. Occasional mild attacks - beta adregenic aerosols or tablets with or without theophylline.
2. Occasional severe attacks - as above but with short pulses of corticosteroids during the attacks.
3. Chronic perennial asthma - cortocosteroid aerosol prophylaxis with beta agonists and theophylline to be added during intermittent exacerbations. To the un-responsive Ipratropium bromide in aerosol form can be added as well.

Finally a word about diet and excercise. Apart from restricting items with artificial colouring agents and preservatives and certain food stuffs that cause dermal allergies in individuals, no other diet restriction is really necessary. When free of bronchospastic attacks, excercise to its optimum level is permissable. Bronchial asthma should be regarded as a disorder and not a disease and individuals suffering from it should be encouraged to lead normal productive lives. With the therapeutic armamentarium at our disposal to-day this is not a dream but a reality.

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SOME SELECTED TOPICS IN CUTANEOUS ALLERGIES

A large number of skin diseases are based on allergic/ immunological mechanisms, but in a limited period of time, it is not possible to have a detailed discussion on all these diseases. It is therefore proposed to pick up a few selected topics among these diseases and highlight the latest developments/experience in the respective areas.

Urticaria is the commonest allergic disorder and it can be caused by a variety of agents. Food and drugs are well known causes of urticaria, but a significant proportion of cases of urticaria are caused by physical agents such as cold, heat, sunlight, friction or excercise. We have developed two tests, "Cryo-stimulation test" for cold urticaria and "Dermograding" for dermographic urticaria with which one can deliver standardised and graded stimuli of cold and friction respectively for confirming the diagnosis and grading the degree of hypersensitivity in these two types of urticaria. These tests are also useful for following the natural course of the disease in these cases and also forobjectively evaluating the effects of therapeutic procedures.

When the allergy is suspected to be caused by foods, the most reliable procedure consists of the food elimination and provocation test. This procedure consists of eliminating the suspected foods (partial diet elimination) or sometimes all the foods except glucose, salt and water (complete diet elimination) for 2 days to see if the symptoms of the allergic disease disappear or reduce by at least 50%. If the patient improves during these two days, the eliminated foods are re-introduced one by one per day to find out which of these foods would lead to recurrence of the symptoms. In case there is no improvement even on complete diet elimination, one can conclude that the allergic symptoms are not being caused by any of the foods. This procedure may be time-consuming but if carried out accurately it is very dependable for finding out if the allergy is caused by a food.

Patients having allergy to a pollen often get their symptoms only during a fixed period of the year and recover completely or improve significantly when that period is over. They may also recover if they move to another place where that plant does not occur. Inhalant allergy can also be caused by dust in the house, offices, liberaries and road-side. Such patients derive significant benefit if they prevent the inhalation of pollen/dust by wearing nasal filters designed by us. These filters are worn inside the nostrils and are thus not

visible from outside (like contact lenses). Soft nasal filters are available in 9 different sizes so that the patient can pick the size which fits his/her nostril,and a week's training under the care of the expert is enough to make the patient understand the mode of its proper usage. There are patients now who have used these filters for more than 10 years and derived adequate benefit without any long side effects.

Contact dermatitis is a special type of a reaction in which the dermatitis is caused by an agent coming in contact with the surface of the skin. The causative agents generally include cosmatics, wearing apparel, jewellry, tropically applied medicines or other agents to which an individual gets exposed during his daily activities. The areas of the body involved by the dermatitis generally involve the causative agents. To facilitate this test we have preapered ready-made materials in the form of antigen-impregnated discs and antigen-containing saucers which make the procedure far easier and quicker. We have also established a procedure by which the degree of contact hypersensitivity to a particular antigen in a patient can be determined in the same way as the levels of antibodies in antibody- mediated diseases.

Cutaneous reactions to drugs are another important field because some of the drug reactions especially anaphylaxis, toxic epidermal necrolysis (TEN) and Stevens-Johnson syndrome (SJS) can be rapidly fatal. The aetiopathogenesis of anaphylactic reactions to penicillin and their management are well known, but TEN and SJS are still reported to be highly fatal. We have developed a treatment schedule with which the fatalities can be prevented almost completely. This schedule is based on, (1) withdrawing all the drugs being given to the patient at the time of the drug reaction, (2) using an adequate dose of systemic corticosteroids to control the reaction within 24 hours and (3) rapidly withdrawing the corticosteriods after the drug reaction has been controlled.

Another disease in which we have achieved remarkable success is pemphigus. This is an autoimmune disease in which IgG autoantobodies circulate in the blood and react with a protein covering the epidermal cells to produce blisters all over the skin and mucous membranes. The disease is potentially fatal in almost all patients within a few years. By using an arbitrarily designed schedule called dexamethasone cyclophosphamide plus (DCP) therapy consicting of 100 mg dexamethasone on 3 consecutive days along with 500 mg cyclophosphamide on 1 day, repeated at 4 weeks intervals and 50 mg cyclophosphamide orally daily in between the DCP, we have been able to induce permanent remissions in almost every patient under our care.

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ALLERGIC RHINITS

Allergic Rhinitis has been defined as, an IgE mediated hypersensitivity disease of the mucous membranes of the nasal airways characterized by sneezing, nasal blockage, and discharge. However, classical IgE mediated allergic rhinitis is not always seen. This is because many allergens induce not only IgE, but also a complex array of inflammatory mediators. Also, both Allergy and Infection both may coexist, each potentiating the other. Consequently there are two different classifications of RHINITIS.

I) Infectious and non infectious (Allergic and non allergic) Allergic further subdivided into Seasonal & Perennial
II) As being due to mechanical, allergic, mucociliary clearence abnormality, granulomatous disease, autonomic imbalance, hormonal imbalance and iatrogenic causes.

It should be borne in mind that the lining of the nose and the paranasal sinuses is continuous and inflammation of one invariably affects the other. Also the upper and lower respiratory tracts are closely related, in anatomy, in physiological functions and in responses to the environment.

The incomplete nature of our knowledge of its pathophysiology, the plethora of investigations, and unpredictable nature of response to therapy, makes formulation of a scientific approach to the management of these patients difficult.

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OCULAR ALLERGY

Ocular allergic disorders are among the most commonly encountered eye problems. Conjunctiva is the most frequently affected. Ocular allergy and conjunctivitis are often considered synonymous. Allergic conjunctivitis may manifest as seasonal allergic conjunctivitis, perennial allergic conjuntivittis, vernal conjunctivitis and gaint papillary conjunctivitis. Phlyctenular conjunctivitis is considered as a manifestation of endogenous allergy. Among the deeper inflammations uveitis has a presumed immunological basis. Transparent structures like cornea, lens and vireous being avascular, are not frequently involved in allergic disorders.

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IN VIVO AND IN VITRO METHODS FOR THE DIAGNOSIS OF ALLERGY

Antibodies are generally viewed as desirable agents endowing protection against infectious diseases. However, immunologic injury mediated by undesirable or harmful properties of antibodies can lead to hypersensitivity resulting in tissue damaging reactions. Among the four types of hypersensitivity, type I is mediated by IgE class of antibodies resulting in the manifestation of atopic allergy, the clinical consequence of which may range from bronchial asthama, allergic rhinitis, allergic conjunctivitis, gastrointestinal allergy, sytemic anaphylaxis to atopic dermatitis.

The methods currently available for the diagnosis of atopic allergy can be categorised into three tyeps, viz. (1) skin tests (prick and intradermal) (2) provacation tests (nasal, bronchial or conjuctivial challenge with the offending allergen or oral challenge for foods) and (3) in vivo tests for the quantitation of total and allergen-specific IgE antibodies.

Elevated levels of IgE antibodies are often associated with atopic allergy and an in vitro test for total IgE is an useful indicator in the diagnosis. Positive skin tests together with the demonstration of specific IgE antibodies in the serum of an individual will aid in the identification of the offending allergens.

IgE antibodies specific for an allergen can be demonstrated by radioallergosorbent test (RAST) or ELISA or by quatitating the release of histamine by passively sensitized normal leucocytes after incubating with atopic patient's serum and subsequent challenge with the offending allergen. A combination of the in vivo and in vitro methods are crucial not only for determining the atopic status of an individual, but also to accurately identify the offending allergen(s) which will help in effective disease management and immunotherapy. The various in vivo and in vitro methods currently available for the diagnosis of atopic allergy will be discussed.

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FOOD ALLERGY

P.S. KAMATH

Food allergy is a diagnosis often entertained, seldom investigated and rarely confirmed. Food allergy is defined as an immunologically medicated clinical syndrome that develops after ingestion of a dietry product. The definition thus must fulfill two criteria : (1) The demonstration of a reproducible reaction to a specific food and (2) evidence that this reaction is immunologically medicated.

DEFINITIONS

There is so much confusion regarding terminology to be used. The following is a list of definitions which are used for uniformity:

Food sensitivity	:	Adverse immunological response to ingested food.
Food allergy	:	Synonymous with food sensitivity.
Food anaphylaxis	:	Acute food sensitivity involving IgE antibody.
Food intolerance	:	Synonymous with food poisoning. Indicates non-immunologic action of ingested food or food additives either as contaminants or released by organisms which are contaminants of food.
Anaphylactoid	:	Nonimmunologic release of chemical mediators Reaction mimicing food anaphylaxis.
Pseudoallergy	:	Encompass anaphylactoid reaction as well ass adverse pharmacological and adverse metaboric reactions.

EPIDEMIOLOGY

Food allergy is reported to occur in upto 7 percent of the pediatric population. Immaturity is an important factor in the pathogenesis of the condition and a family history is a major predisposing factor. Breast feeding during the first few months of life probably decreases the infant's risk for the development of food allergy.

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PATHOPHYSIOLOGY

The intestinal mucosal barrier protects against dietary antigen. Disruption of this barrier as in the newborn period or after an intestinal infection can lead to the development of food allergy. The integrity of the mucosal barrier is contributed to by both immunologic and non immunologic factors. These factors are outlined in Table 1, and include pH, peristalsis, proteolytic activity and intestinal epithelial membrane factors as non immunologic factors; the immunologic comopnents comprise the gut associated lymphoid tissue. Factors which increase macromolecular absorbtion by the gut are listed in Table 2.

Table 1 : Factors controlling Macromolelcular Transport in the Gut

Non immunologic Factors

- Indigenous intestinal flora
- Secretions
- Gastric barrier
- Peristaltic movement
- Liver filtration
- Miscellaneous
  - Pancreatic snzymes
  - Goblet cell mucus
- Local immunologic defenses
  - Secretory IgA
  - Cell-mediated immunity
  - Other immunoglobulins (IgG,M,E).

Table 2

Factors leading to Enhanced macromoleculte uptake in Gut

- Local antibody deficiency
  - Secretory IgA deficiency
- Altered mucosal barrier
  - Changes in surface membrance charge Inflammation
  - Ulceration
- Lysosomal dysfunction
  - ? Storage diseases
  - ? Corticosteroids
- Intraluminal factors
  - Decreased gastric acidity
  - Pancreatic insufficien

The mechanism of intestinal production of committed B cells is not completely understood. Lymphocytes within Peyer's patches are stimulated by intestinal antigens by means of

specialized epithelial cells. Lymphoblasts migrate to mesenteric nodes for further maturation, enter the systemic circulation, and then migrate back to the lamina propria. Here they produce secretory IgA in response to intestinally absorbed antigens. While helper T cells mediate a local intestinal B-cell response, the systemic immune response to dietary antigen is in general subded or absent. This is because while the local IgA response is stimulated by local antigens the IgG and IgE responses are suppressed. This suppressed response to dietary antigen is called oral tolerance. Tolerance is mediated by suppressor T cells which are activated in Peyer's patches in response to antigen presentation. Once induced, these suppressor T cells migrate to pheripheral lymphoid tissue where they mediate tolerance by supressing systemic humoral (IgG, IgE, IgM) and cell-mediated responses to specific dietary antigens.

In the newborn the intestinal mucosal barrier is immature. The impaired barrier which facilitates macromolecular uptake is contributed to by changes in the composition of the microvillous membrane low gastric acid output, decreased proteolytic activity and altered mucin production. The intestinal immune mechanisms are also poorly developed and the newborn intestine lacks the capacity to produce immunoglobulins. IgA concentrations in saliva, stool and serum of neonates are lower than in adults.

CLINICAL FEATURES

The clincial features of food allergy are influenced by factors such as age, the quantity and quality of food ingested and the presence of coexisting medical conditions.

Two general types of food sensitivity reactions are encountered. Immediate and intermediate reaction which are IgE - mediated and delayed responses which are non-IgE-mediated. The immediate or anaphylactic reactions present as urticaria, laryngeal edema, asphyxia and sometimes death. The intermediate reactions occur within two hours of antigen exposure, are less dangerous than immediate reactions and present with gastrointestinal symproms, urticaria, asthma and rhiunitis. Delayed reactions which are non-IgE-mediated occur more than two hours after antigen exposure, are difficult to diagnose and produce symptoms as non-specific and migraine. Other features are recurrent abdominal pain, joint pains and apthous ulcers. The symptoms are either gastrointestinal or extra gastrointestinal.

GASTROINTESTINAL TRACT

The oropharynx is the site of initial exposure of food antigen. Thus, edema and pruritis of the lips, mouth and hypopharynx may be the initial symptoms of food allergy. Because of repeated episodes of swelling of the mouth, lips and tongue chronic mucosal fissuring of the mouth may occur.

With the passage of the antigen into the stomach and intestine a acute onset of nausea, vomiting, abdominal pain, diarrhea or even bloody diarrhea may occur. At upper gastrointestinal endoscopy gastric edema and petechial hemorrhages may be seen.

The pathologic changes in the intestine in children with allergy to cow's milk have been well characterized. The mucosa is thin with patchy areas of villous atrophy. Because of this mucosal injury infants have diarrhea, protein-losing enteropathy, iron deficiency anemia due to chronic intestinal blood loss and weight loss. Cow's milk allergy is an important cause of failure to thrive in infancy.

In children younger than 2 years of age proctocolitis can result from cow's milk allergy. The primary manifestation is bloody diarrhea. Sigmoidoscopy and biopsy reveal a focal or diffuse colitis with eosinophilic infiltrate. Of interest, this condition can occur in strictly breast-fed infants. In these infants the allergic colitis results from maternally derived cow's milk protein antigens that are transmitted to the infant in breast milk. Elimination of cow's milk from the mother's diet results in resolution of symptoms.

Eosinphilic gastroenteritis. The relationship of this condition to food allergy is not clear. Many areas of the gastrointestinal tract are inflamed and diffusely infiltrated with esinophils, particularily in the gastric antrum. Thickening of the intestinal wall may occur resulting in bowel obstruction. Serosal disease results in eosinophilic ascitis. The mucosal form may be triggered by specific food antigens.

RESPIRATORY TRACT

Rhinorrhea and sneezing are manifestations of food allergy which may occur in association with gastrointestinal or cutaneous symptoms. Bronchoconstruction may also occur. An unusual syndrome has been described in infants fed on cow's milk and is characterised by recurrent pneumonia, pulmonary hemosidserosis, anemia, failure to thrive and gastrointestinal blood loss. IgE rather than IgE has been implicated.

Skin. Urticaria and angioedema are frequenct manifestations of food allergy. In infants food sensitivity is considered to play a pathogenic role in atopic dermatitis. Characteristic features are an erythematous maculopapular eruption most often involving the head and neck, the cheeks and creases behind the ear. A family history of atopy exists in most cases. Positive skin and radioallergosorbent tests to food products are frequently found.

DIAGNOSIS: The definitive diagnosis for food allergy is based on the demonstration of a clinical reaction to a food challenge, with elimination of the symptom complex on removal of the offending food product. Thus, the criteria for diagnosis of milk allergy are : 1. Symptoms subside on ellimination of milk from the diet. 2. Symptoms recur within 48 hours after refeeding. 3. Three sequential challenges are

positive. 4. Symptoms abte after each challenge. While the criteria seem straigh-forward they are often difficult to satisfy.

The initial approach to the patient with a suspected food allergy should include a careful history and physical examination. The important questions to be asked should relate to the severity of the food reaction, the timing of the reaction after ingestion of food, the type of foods involved, and a family history. It is known that patient's histories are often unreliable. In such cases an elimination diet may be useful for diagnosing untoward reactions to food.

Skin tests with food extracts are performed by the prick or scratch method. A positive skin test is defined as a wheal with a diameter of 3 mm or greater than that produced in a negative control test. Fasle positives are common; a negative test ususally indicates absence of allergy to the food product. Skin tests are unreliable in children younger than 3 years of age. The radioallergosorbent test is more expensive but not superior to skin testing.

TREATMENT

The only proven effective therapy is an elimination diet. It is important to avoid malnutirition and in the pediatric population especially, adequate calorie, vitamin and mineral replacement must be ensured. About 30 to 40% of children lose their sensitivity to some foods after several years. Antohistaminics may be useful for the control of rhinitis or urticaria. The ideal approach, of course, is to prevent the development of food allergy.

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PRACTICAL SKIN TEST, PROCEDURES IN ALLERGY I- PATCH TESTING

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THE PRINCIPLES OF PATCH TESTING

INTRODUCTION

Patch testing is based on the principle that in an allergic individual, the whole skin is capable of reacting with the causative allergen. Therefore if the antigen is applied on an apparently normal skin area, it could provoke a representative reaction on the area tested.

PATCH TEST UNITS:

Several patch test units have been used. The more popular ones have been listed :

a) Al-test unit
b) Finn chamber
c) Duhring chamber
d) Pasricha patch test unit
e) Indigenous Finn chamber (Kaur & Sharma)
f) Pre-packed units (PA patch)

The simplest patch test unit which can be implemented with minimum materials is described in Fig.1.

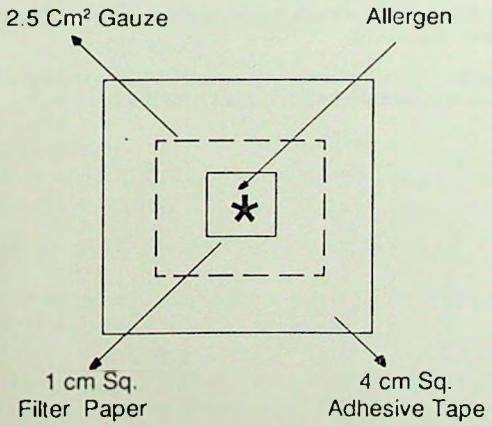

Fig. 1 : Patch Test Unit

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SITE FOR PATCH TEST

a) Upper back is the best site; lower back, flexor aspects of arm and forearm and extensor aspect of thigh are alternatives.

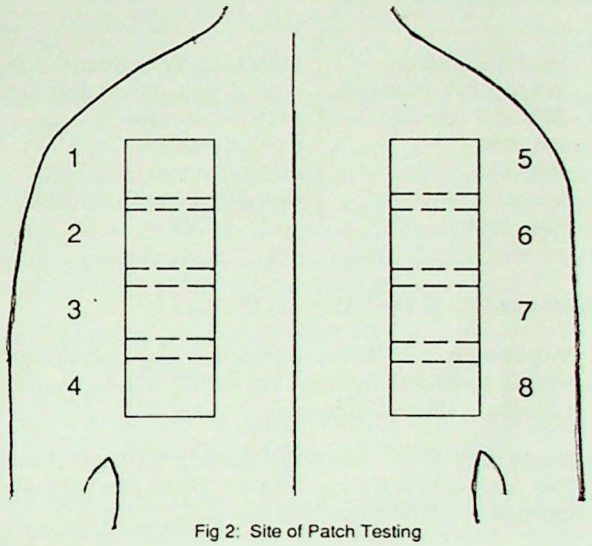

Fig 2: Site of Patch Testing

b) Avoid mobile areas such as over the spine or the medial border of the scapula (Fig.2).
c) Avoid areas with active dermatitis.
d) Avoid hirsute parts of the body

TIMING OF PATCH TEST

a) Preferably after active dermatitis has settled.
b) To be avoided when the patient is on systemic steroids or other immunosuppressive drugs. (Not > 20 mg Prednisolone).

EQUIPMENT AT HAND DURING TESTING

a) Patch test kit
b) Allergens in appropriate vehicle and concentration
c) Marker pen.

PRACTICAL STEPS IN PATCH TESTING

a) Detailed history for possible allergens.
b) Review treatment history
c) Examine back for suitability for patch testing
d) Clean area for proposed patch
e) Transfer allergens to patch test unit

f) Record and number allergens on proforma
g) Transfer patch test unit to patient's back. (Fig.2).

INSTRUCTIONS TO PATIENT

a) Do not bathe/indulge in strenuous activity for 48 hours.
b) Report for reading after 48 hours.
c) If there is severe itching, report to the doctor early.
d) Do not ingest/apply medication during this period
e) Do not remove patch for 48 hours.

READINGS OF RESULTS

? Doubtful reaction	Faint Macular Erythema only
+ Weak (Non-vesicular)	Erythema, Infiltrn, Papules
++ Strong (vesicular)	Above + vesicles
+++ Extreme	Bullous reaction
- Negative	Nothing to see
IR Irritant reaction	Well demarcated, severe
NT Note tested	

MODIFICATIONS OF PATCH TESTING

a) **Photopatch test** : Where the sun may play a contributory role the patch test is modified to include sun exposure of a duplicate set of allergens.

b) **Usage test**: This is common practice in the case of hair-dyes and perfumes and consists of direct non-occlusive application of the suspected offender.

COMPLICATIONS OF PATCH TESTING

a) Sensitization to new allergens
b) Rarely, flare of dermatitis, secondary infection pigmentation, scars, keloids.

FALSE POSITIVE PATCH TEST RESULTS

a) Concentrated/Irritant Test substance
b) Active dermatitis
c) Angry-Back Syndrome
d) Plaster reaction

FALSE NEGATIVE PATCH TEST RESULTS

a) Incorrect diluent/weak test substance
b) On topical or high dose systemic steroids
c) Poor occlusion of Patch
d) Reading too early/too late

RELEVANCE OF PATCH TESTING

Calnan states that the greatest abuse of the patch test is failure to use this test ! It is a unique direct in-vivo test, and when properly applied and correctly interpreted it is the only scientific proof of contact allergic dermatitis. A good history and appropriate clinical correlation with environmental allergens are invaluable in optimally utilizing the Patch Test in allergic skin disease.

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PRACTICAL PROCEDURES IN SKIN TESTS FOR ALLERGY II - PRICK TESTING

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INTRODUCTION

Skin tests are the fundamental tools in the investigation of IgE mediated allergic diseases. The origin of these tests can be traced back to Harrison Blackley in the 1860's who first attempted scarification for the diagnosis of Hay Fever. The procedure was improved and made more scientific by Noon and Freeman in 1911.

PATHOGENIC BASIS

The antigen in the extract used reacts with the specific IgE antibodies fixed to the most cells of the skin, triggering off their degranulation. In those who have never been exposed to the allergen, or those who have not developed IgE to the provocative extract, the reaction will be negative.

Similarly following immunotherapy by desensitisation, blocking antibodies or IgG will bind to the antigen, thus impending an IgE moderated most cell response.

Types of skin tests :

There are two approaches to allergy skin testing

A. Cutaneous or Epicutaneous
   a) Scratch test
   b) Puncture test
   c) Prick test

B. Intradermal
- In this method the extract is injected into the superficial layers of the dermis.

COMPARITIVE ADVANTAGES OF THE PRICK TEST

The Present discussion concentrates on the prick test method because of it's relative advantages.
a) Safety, speed and simplicity
b) Numerous antigens can be tested simultaneously
c) Negligible risk of anaphylaxis
d) Minimum discomfort

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EQUIPMENT AT HAND DURING PRICK TESTING

a) Allergen Extracts : A standard extract is defined as one which contains a measured amount of specific antigen. Most of the presently available commercial extrats have labels that specify the volume of protein nitrogen units (PNU) or state the weight to volume ratio of the extracted ingredients. Squeezed juice, beer, wine or milk can be safely used for skin testing.

b) Controls : Skin testing employs a negative control in the form of saline or diluent and a positive control, 0.1 mg/ml histamine hydrochloride. The positive control is the standard against which positivity is graded and is also useful in detecting suppression of the test reponse by medication.

FACTORS INFLUENCING TEST RESULTS

a) Medication
Antihistamines affect the degree and duration of suppresion of wheals induced by prick testing with histamine.

The mean suppression following diphenhydramine was 1.9 days, chlorpheniramine 2.5 days, hydroxyzine 4.3 days, terfenadine 6 days and aztemizole 27 days. Anti-emetics and tranquilizers of phenothiazine and imipramine class also have antihistaminic activity. Hence routine antihistaminic drugs should be discontinued for a week before skin tests and longer acting drugs like astemizole should be stopped at least two and a half weeks before. The positive control with histamine during skin testing therefore, has an important role to play in determining whether drugs have dulled the allergic response.

Bronchodialators like epinephrine, theophylline and beta-2 specific adrenergic agonists do not interfere with the skin reaction and can be continued safely. Corticosteroids upto an equivalent of 30 mg prednisolone daily have also been considered admissable.

b) Site of testing
The most reactive parts are the upper and mid-back and these sites have the additional advantage of furnishing a wide area to test a large number of allergens simultaneously.

The forearm is commonly chosen for convenience and at this site the ulnar border is most reactive while the wrist is the least reactive.

c) Timing of Testing
Early morning is the least reactive time of the day while the

period between 1900 hours and 2300 hours has been found to elicit the maximum response.

d) Age of the Patient
The reaction in infants is smaller than in adults and the maximum response has been elicited in individuals in the third decade. There is a steady decline in responsiveness after the age of fifty which possibly corresponds to a decrease in total and specific IgE levels with age.

PRACTICAL STEPS IN PRICK TESTING

1. Historical review for possible allergens.
2. Advice regarding prior discontinuation of medication that may interfere with result.
3. Test site cleaned with spirit and allergen sites marked.
4. Allergen extracts placed as drops near the marked sites with at least 4 cms. distance between adjacent allergens.
5. Positive control (saline) also positioned.
6. Standard lancet used at 45° angle to cause a small break in the epidermis without bleeding at the site of extract. Saline is pricked first and histamine last. The same lancet is used throughout the test by wiping the tip with a moist gauze after each allergen.
7. Extracts are mopped with filter paper.
8. Readings are carried out at 10 minutes, 15 minutes and 20 minutes.
9. Equipment is at hand to deal with a severe reaction.

FALSE NEGATIVE TESTS

1. Lack of stability or deterioration of stored extract.
2. Localized allergy is a phenomenon where skin tests may be negative because the allergic response is only at the trigger anatomic site eg. the nose or bronchus.
3. Skin sensitivity in children may be delayed by 1-2 years after onset of symptoms.

RELEVANCE OF THE PRICK TEST

1. The test correlates well with clinical disease and can be performed rapidly and safely.
2. It can be used to test a large number of suspected allergens simultaneously.
3. There is a good correlation between a positive prick test and a positive RAST.
4. The test is useful as an indicator of the response to immunotherapy by hyposensitisation.
5. However the skin test MUST be correlated with the patient's history and environmental exposure. Irrelevant positives to unrelated food or environmental allergens can be totally misleading for the unwary practiconer.
6. In addition discontinuing antihistaminics in patients with active disease may be a hurdle in practice. So also allergy skin tests without relevant advice on how to avoid the allergent, and without desensitisation facilities would be a farce.

CONCLUSION

The prick test is a safe, sensitive and economical means of obtaining information regarding allergy, upon which a clinical judgement can be based.

GRADING OF RESULTS

Grading depends on the size of the wheal in relation to the wheal produced by the positive control 0.1 mgm/ml histamine hydrochloride the measurement usually used is the average of the longest diameter, and the diameter perpendicular to it.

Unfortunately there are several methods of grading the response, the Scandinavian society of allergologists have proposed an acceptable grading which is implemented at the allergy clinic of St. John's Medical College Hospital.

Grade	Description
4 +	Wheal twice the size of positive control / or pseudopods
3 +	Wheal equal to the size of positive control
2 +	Wheal half the size of positive control

Positive control : Histamine
Negative control : Saline
Negative result : less than 2 +

FALSE POSITIVE RESULTS

1. Concentrated extract
2. Inadequate distance between extracts : - If 4-5 cms distance is not maintained, a strong positive can cause non-specific enhancement of neighbouring tests.
3. Histamine control too close to allergens

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AUTOLOGUS BLOOD TRANSFUSION : ITS ROLE IN ORAL & MAXILLOFACIAL SURGERY

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Oral cancer in the U.K. represents about 2% of all cancers. In India this figure is elevated to about 30% of all cancers. Many patients present too late for any effective treatment. Others suitable for treatment receive radiotherapy. This leaves a substantial number of patients with oral cancer who require surgery as a primary modality or as salvage after radiotherapy. This latter group may have their surgery anticipated as part of a planned combined treatment. These patients therefore present a significant surgical problem to maxillofacial surgeons.

The highly vascular anatomy of the head and neck region makes it necessary to cross-match and often transfuse blood to patients undergoing this type of surgery. Although it is not always necessary to undertake the extensive reconstructive procedures seen in western maxillofacial surgery, the ablative surgery normally requires the patient to be cross-matched.

Maintenance of well stocked blood banks is a problem in any country, but is considerably more difficult in the third world countries. Many patients are concerned, albeit erroneously, that blood transfusion may be associated with the risk of cross-infection, particularly from A.I.D.S. (Acquired Immune Deficiency Syndrome).

It has been proposed[1] that autologous blood transfusion - the recycling of the patient's own blood, this being predeposited during the days/weeks that precede the operation - may alleviate these fears. It will also have other benefits which are probably more significant. The development of an effective blood substitute has not yet materialised.

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Autologous blood transfusion (ABT) eliminates virtually all the hazards of homologous blood transfusion. Cross-matching is not essential, no disease is transmitted, the presence of drugs is less important and the risk of isoimmunization to foreign proteins present in donor blood is excluded. Patients with religious objections to blood transfusions may accept ABT with certain safeguards. It must be stressed, however, that the risk of transmission of the H.I.V. is very low, estimated at less than one in a million.[2]

TECHNIQUE OF AUTOLOGOUS BLOOD TRANSFUSION

The technique of ABT is well established in the United States and Australia [3,4,5]. Increasing sophistication of surgery indicates that the need for blood has reached a stage when demand is in the danger of out-stripping supply. Most forms of elective surgery may be covered by pre-operative donation, and may orthopaedic, vascular and gynaecological procedures can be carried out using autologous blood. Results show that about 25% require no blood at all, and in two third of the operations, autologous blood sufficed [6,7].

There are threee methods for collecting blood for ABT :

1. Salvage of blood during and after cardiopulmonary bypass surgery. Blood scavenging machines[8,9] are not widely used in the U.K. but can be helpful for patients with ruptured aortic (thoracoabdominal) aneurysm, ectopic pregnancy, liver transplantation and trauma.

2. Peri-operative collection and haemodilution in theatre provides a ready supply of fresh blood for retransfusion at completion of surgery.

3. Pre-operative donation and storage[10,11] is cheap, effective and provides economy of homologous blood usage. This is the method to be discussed in this paper. In the U.K. the blood transfusion service does not recognise the particular need for ABT, and therefore it is not routinely available. In Sunderland, however, whilst there is no routine service provided a limited number of patients are able to receive ABT on an experimental basis. This service has been extended to provide a regular supply.

ABT needs careful and separate identification of blood for autologous use. Clearly, the blood will not be screened and cross matched in the conventional manner of homologous transfusion, and hence it must be strictly segretated from normal blood bank sources. There are no definite limits as to

the age at which the blood can be collected from the donor, but children would normally be unco-operative. It is suggested that anyone who has normal marrow function and who is fit for general anaesthesia and surgery, is fit to donate blood in an ABT program[12]. A patient who is medically eligible for ABT must be fully informed of the risks and requirements of the procedure and should sign a specified consent form for this purpose.

The patient must present with a haemoglobin greater than 11 gms/dl, or a packed cell volume of 34% or more. In addition, no more than 12% of the estimated blood volume of a patient should be drawn at any one visit. The autologous blood is available for approximately 35 days after collection with the blood stored in the liquid form with citrate phosphate dextrose and adenine. Upto 8 units of blood (405 - 495 mls. each) can be withdrawn altogether. In the experience of oral surgeons in the United States[1] a predeposit of 2 units was required in most of their cases of combined maxillary and mandibular orthognathic surgery.

The blood should be collected at no more than 3 day intervals and last phlebotomy should take place no less than 72 hours before surgery. 72 hours is the maximum time required for mobilisation of protein to return the plasma volume to normal. Iron availability is the limiting factor in haematopoiesis following phlebotomy, and chronic phlebotomy of one unit every two days is well tolerated as long as adequate iron replacement is available. Ferrous sulphate (300 mgs 3 times daily) is prescribed and increased marrow activity achieves an increase in haemoglobin concentration of 1 gm/dl, replacing one unit every 3 to 5 days.

Under such management the patient should have at operation, a haemoglobin above 10 gm/dl, a level considered safe by the majority of anaesthetists. The drop in packed cell volume following the operation may have the following advantages.

1. Reduced possibility of thrombosis
2. Improved capillary perfusion
3. Reduced whole blood viscosity

Additionally, the marrow is maximally active at the time of operation and is better able to replace any blood loss above that provided by autologous transfusion.

Remaining blood may, if necessary, be returned to the blood bank and subsequently used for homologous transfusion. If transfusion of autologous units does not occur within the dating period of the oldest unit, loss of this unit may be prevented by returning this blood to the donor just after draining a fresh unit - the 'leap frogging' technique.

DISCUSSION

Autologous blood transfusion is a technique popularised in the west for essentially healthy, well nourished patients undergoing elective surgery. Transporting this technique to India, despite all its potential advantages requires careful consideration.

In India maxillofacial surgery rarely involves the elective surgery seen in the U.K. For example, facial osteotomies are rarely carried out, although large jaw cysts, benign salivary lesions will present. Naturally it is estimated that even in the U.K. patients will have pre-surgical radiotherapy up to 40 Gy. As mentioned before the reconstructive surgery is frequently minimal and blood loss correspondingly less. Only two units are normally required for resection of the tumour and neck dissection.

It thus seems highly likely that the small amount of blood required for transfusion coupled with the inevitable delays before the patient will get to surgery make ABT a viable option. The indications for ABT in the west also apply to India.

The indications for transfusion of blood products remain the same, but are not always strictly applied. This may on occasions lead to excessive transfusions. These indications are transfusion of packed cells or whole blood to replace blood loss, and the transfer of specific blood products, e.g. Facter VII in haemophiliacs.

There are clearly many good reasons for avoiding unnecessary blood transfusion. The most significant reason are the immunological factrs[19].

Alloimmunisation Red cell, leucocyte and platelet antigens.
Plasma protein antigens

Incompatibility

a. Red cell incompatibility
Intravascular haemolysis - ABO incompatibility
Extravascular haemolysis - Immediate/delayed

b. Leucocyte and platelet incompatibility
Febrile reactions (granulocytes)
Pulmonary reaction (granulocytes)
Post-transfusion purpura (platelets)
Poor survival of transfused platelets and granulocytes
Graft vs. Host reactions (lymphocytes)

c. Plasma protein incompatibility
Urticarial and anaphylactic reactions.

Post-transfusion hepatitis is a possible sequel of blood transfusion[20], and may be caused by the Hepatitis B virus,

agent(s) of Non-A Non-B Hepatitis, Epstein-Bar virus and Cytomegalovirus. Bacterial Syphilis, Brucellosis, Rickettsial disease and parasitic (Malaria, Fillariasis, Trypansomiasis, Leishmaniasis ad toxoplasmosis) infections may also be transmitted by blood transfusion.

In young, fit and healthy patients, it is quite acceptable for them to lose 10-30% of their total blood volume during surgery. If however, blood transfuion is anticipated, then there are several advantages in offering the patient the option of ABT. The advantages of ABT are summarised as follows[21].

1. Blood is available in areas remote from donor banks, under all conditions with no limitations due to time, geography or catastrophe.

2. In instances of rare blood types, the autologous may be the only possible donor.

3. The possibility of errors in typing or cross-matching are eliminated.

4. No incompatibility reactions or sensitization to other human antigens will occur.

5. Pyogenic or allergic reactions due to blood factors are eliminated.

6. There is no risk of exposure to carrier transmitted diseases.

7. Religious priniciples may be respected in instances when homologous blood is unacceptable.

8. In cases of shock, better volume expansion has been reported with autologous rather than homologous transfusion.

9. Labile coagulation factors are preserved with immediate reinfusion.

10. Erythropoiesis is stimulated by donation at short intervals.

The possible disadvantages are that there is clearly a need for time to be available prior to surgery for the blood to be collected. The patient must be relatively fit and well, with no significant anaemia, coagulopathy or presence of microemboli or bacteraemia. In recent years, claims have been made concerning the effect of homologous blood on the recurrence of colonic cancer [22,23,24]. In terms of cost effectiveness, it would seem that there is an initial "setting up" cost because ABT is normally provided at the centres where the oeprations are to be performed, rather than at centralised transfusion laboratories. Eventually, the unit cost should fall and be offset by reduced patient morbidity, and diversion of unused blood for use by other patients. In addition, individuals may be recruited into the population of blood donors.

Therefore in view of the distinct advantages, in terms of safety and effectiveness, offered by the technique of ABT as compared to homologous blood transfusion it would seem particularly relevant to this type of oral and maxillofacial surgery. The logistics and need to establish this service in India requires further evaluation.

It must be emphasised however, that any discussion on the role of ABT does not imply any doubts about the competence or effectiveness of the screening procedures by the Blood Transfusion Service. Above all, this paper aims to stimulate greater consideration to the role of Autologous Blood Transfusion in third world countries.

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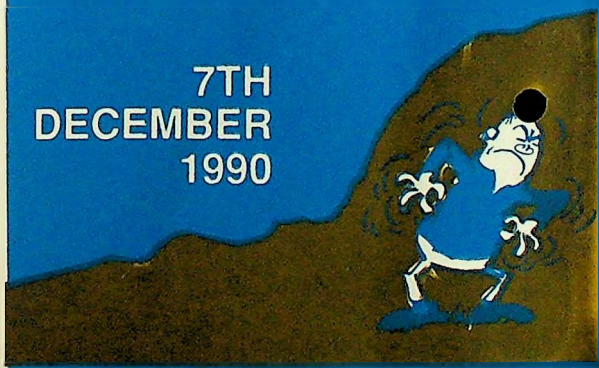
ST. JOHN'S MEDICAL COLLEGE

NATIONAL SYMPOSIUM

ON

ALLERGY

7TH DECEMBER 1990



ALUMNI ASSOCIATION
ST. JOHN'S MEDICAL COLLEGE
BANGALORE

Dear Doctor,

This notice follows our first circular in which we announced the National Symposium on Allergy being organised by the Alumni Association of S.J.M.C. on Friday 7th December 1990.

This symposium is sponsored by the Indian Council for Medical Research (ICMR) and forms a part of the Continuing Medical Education Programme of St. John's Medical College, Bangalore.

PROGRAMME

The detailed programme of the Symposium is as follows:

Venue: Room 117, Ground Floor, St. John's Medical College.

9.15 — 9.45 AM	— INAUGURATION
9.45 — 10.00 AM	— REFRESHMENTS
10.00 — 11.45 AM	— Morning Session

Topic	Speaker
"B[illegible] Immunology"	Dr. V.R. Muthukkaruppan, PhD Madurai Kamaraj University, Madurai
"Invivo & Invitro Techniques in Allergy"	Dr. P.V. Subba Rao, PhD Indian Institute of Science, Bangalore
"Eitopathogenesis of Bronchial Asthma"	Dr. Om Prakash, MD St. Martha's Hospital, Bangalore.
11.45 — 12.00 Noon	— Coffee Break
12.00 — 1.10 PM	— Pre Lunch Session
Topic	Speaker
"Principles of Management of Bronchial Asthma"	Dr. A.S. Chitnis, MD Jaslok Hospital & Research Centre Bombay
"Ocular Allergies"	Dr. Mahabaleshwar, MD, DO, MAMS Prof. & Head Dept. of Ophthalmology St. John's Medical College Hosp.
1.10 — 2.15 PM	— LUNCH
2.15 — 4.00 PM	— Post Lunch Session
To[illegible]	Speaker
"S[illegible] Allergies"	Dr. P.S. Pasricha, MD Prof. of Dermatology & Venereology All India Institute of Medical Sciences New Delhi
"Food Allergies"	Dr. Patrick S. Kamath, MD, DM, Professor Dept. of Gastroenterology St. John's Medical College Hosp.
"Nasal Allergies"	Dr. Ravi C. Nayar, MS, DNBE, Asst. Prof. of E.N.T. St. John's Medical College Hosp.
4.00 — 4.15 PM	— Tea Break
4.15 — 5.30 PM	— PANEL DISCUSSION IMMUNO THERAPY Moderator — Dr. Om Prakash, MD, Panelists — Dr. Swarna Rekha, MD, Dr. Moire Jacob, MBBS, DCH, FRCP, LMCC, Dr. P.V. Subba Rao, PhD,
5.30 — 6.30 PM	PRACTICAL DEMONSTRATION Prick test, Patch test, Lung functions test Venue: OPD Dermat & Medicine Dept SJMCH Prick test — Dr. Elizabeth Jayaseelan, DNBE, Patch test — Dr. Anil Abraham, MD, DNBE, Lung functions test — Dr. George D'souza, MD

Organising Committee

CHAIR PERSONS	Dr. Thangam Joseph, MD Prof. & H.O.D. — Pharmacology S.J.M.C., Bangalore
	Dr. Dara S. Amar, MD Prof. & H.O.D. — Community Medicine S.J.M.C. Bangalore
PRESIDENT	Dr. Arun B. Kilpadi, MS Associate Prof. — Surgery, SJMCH President, S.J.M.C. Alumni Association Bangalore
ORGANISING SECRETARY CUM TREASURER	Dr. S.C. Rajendran, MD, DVD, Asst. Prof. & Incharge Dept. of Dermatology & Venereology Treasurer, S.J.M.C. Alumni Association
JT. ORGANISING SECRETARY	Dr. J.J. Alapatt, DLO, Lecturer — ENT, SJMCH Gen. Secretary, S.J.M.C. Alumni Association.
SCIENTIFIC SUB-COMMITTEE	Dr. Ashley L.J. D'Cruz, MS, MCh, Asst. Prof. & Incharge Dept. of Paediatric Surgery, SJMCH Academic Secretary, SJMC Alumni Association
	Dr. Anil Abraham, MD, DNBE Lecturer Dept. ofDermatology & Venereology Bulletin Secretary, SJMC Alumni Association
	Dr. George D'Souza, MD, Lecturer, Dept. of Medicine, SJMCH

PROGRAMME

Timings	Topic	Speaker	Sponsored by
9.15 AM to 9.45 AM	INAUGURATION		
9.45 to 10.00	REFRESHMENT		
10.00 to 10.30	" Basic Immunology "	Dr. VR. Muthukkarruppan, PhD Madurai Kamaraj University Madurai.	
10.30 to 10.35	DISCUSSION		
10.35 to 11.05	" INVIVO & INVITRO TECHNICS IN ALLERGY "	Dr. P.V. Subba Rao, PhD Indian Institute of Science Bangalore.	
1105 to 11.10	DISCUSSION		
11.10 to 11.40	" ETIO PATHOGENESIS OF BRONCHIAL ASTHMA "	Dr. Om Prakash, MD St. Martha's Hospital Bangalore.	
11.40 to 11.45	DISCUSSION		
11.45 to 12.00 PM	BREAK		
12.00 PM to 12.30 PM	" PRINCIPLES OF MANAGEMENT OF BRONCHIAL ASTHMA "	Dr. A.S. Chitnis, MD Jaslok Hospital & Research Centre Bombay.	
12.30 to 12.35	DISCUSSION		
12.35 to 1.05	" OCCULAR ALLERGIES "	Dr. Mahabaleshwar, MD DO MAMS Prof. & Head Dept. of Ophthalmology, SJMCH	
1.05 to 1.10	DISCUSSION		
1.10 PM to 2.15 PM	LUNCH		
2.15 PM to 2.45 PM	" SKIN ALLERGIES "	Dr. J.S. Pasricha, MD All India Institute of Medical Sciences New Delhi.	
2.45 to 2.50	DISCUSSION		
2.50 to 3 .20	" FOOD ALLERGIES "	Dr. Patrick S. Kamath, MD DM Assoc. Prof. & I/c Head Dept. of Gastroenterology, SJMCH	
3.20 to 3.25	DISCUSSION		
3.25 to 3.55	" NASAL ALLERGIES "	Dr. Ravi Nair, MS DNB Asstt. Prof. of ENT SJMCH	
3.55 to 4.00	DISCUSSION		
4.00 PM to 4.15 PM	REFRESHMENT		
4.15 PM to 5.30 PM	PANEL DISCUSSION	Moderator - Dr. Om Prakash Panelists - Dr. Suarna Rekha, Dr. Moira Jacob	
5.30 PM to 6.30 PM	PRACTICAL PROGRAMME Prick test, Patch test, Lung functions test	Venue: OPD Dermat & Medicine Dept., SJMCH Prick test - Dr. Elizabeth Jayaseelan Patch test - Dr. Anil Abraham Lung functions test - Dr. George DeSouza	

The Alumni Association of St. John's Medical College & Hospital
Bangalore

Cordially invites you to

THE NATIONAL SYMPOSIUM ON ALLERGY
ON

FRIDAY 7TH DECEMBER 1990
IN ROOM 117, Robert Koch Bhavan, S. J. M. C.

Sponsored by : I C M R & National Academy of Medical Sciences

Dr. S. C. Rajendran, M. D., D V. D.,
Organising Secretary Cum Treasurer

Dr. Arun B. Kilpadi, M. S.
President

Programme Overleaf

PROGRAMME

09 15 Hrs	– Welcome Address	Dr. S. C Rajendran, M. D. ,D .V. D. Organising Secretary
09 20 Hrs	– Inauguration	Fr. B. Moras Administrator St. John's Medical College Hospital
09 30 Hrs	– Lighting of lamp and release of souvenir	Fr. Percival Fernandez, Ph.D Director St. John's Medical College & Hospital
09 35 Hrs	- Vote of thanks	Dr. J.J.Alapatt, MBBS, D.L.O. Hon. Gen. Secretary
09 45 Hrs	– Light refreshment	
10 00 Hrs	– Scientific Programme Commences.	

tury, and that the next generation of aircraft, 600- and 800-seaters, will pick up where the 747 left off.

"It surprised even the optimists among us," Malcolm Stamper says.

THIRTEEN hours after takeoff, the grey and blue 747 lines up with the runway at Tokyo's Narita Airport and gently touches down. In a few minutes the passengers are gone, and both crews soon after. A legion of cleaners and caterers swarms aboard, then new crews. By evening, the plane is ready to go back to work.

Small Surprises

WHEN HIS wife was expecting their third child, a father decided to tell his two sons, ages seven and nine, the facts of life. He checked out several books from the library on how parents should approach the subject. After stumbling through an explanation, he took a deep breath, and said, "Now, boys, do you have any questions?"

"Yes," the younger boy answered immediately.

"Go ahead," said the man nervously.

"Can we," his son asked, "have new baseball gloves?"

— Quoted by James Dent in Charleston *Gazette*

IN MY class of seven-year-olds I always teach the students not to interrupt when I'm working with a reading group. The day Jessica, a conscientious child, approached the reading table, I knew she must be coming about a serious matter.

Visibly upset, she whispered, "Mrs Cerrone, David called me the 'E' word." Having taught for several years, I knew a lot of unspeakable words, but I couldn't recall any that began with that letter. Finally I asked, "Jessica, just what is the 'E' word?"

After a dramatic pause, she said with great seriousness, "Ignorant."

— Janet Cerrone

WAITING for his first orthodontist appointment, my 12-year-old son was slightly nervous. He was completing a patient questionnaire and apparently had hopes of winning the dentist's favour.

I noticed that in the space marked "Hobbies" he had filled in "Swimming and flossing."

— Annalyn Smith

MY 16-YEAR-OLD son's room was always a mess. I told him he couldn't go out with his friends until he had cleaned half of it.

Just a few minutes later, he was heading for the front door, whistling. When I confronted him, he said, "But, Mum, you told me it didn't matter which half I cleaned. So I cleaned the top half!"

— B. L. Stumbaugh

When to Worry About a Fever

As that little silver line creeps higher, we start to panic. But doctors have some surprising news

BY CAROL KRUCOFF

PHOTO: ROBERT MILAZZO

THE PANICKED 2am phone call woke Dr Suzanne Corrigan of the American Academy of Paediatrics. A woman cried, "My child has a high fever. What should I do?"

The paediatrician quickly asked: How old is the youngster? How high is the fever? What are the other symptoms? "It turned out that the fever measured 101 degrees F* rectally — the equivalent of 100 degrees orally," says Corrigan. "And the baby, a 15-month-old, had fallen back to a peaceful sleep."

The mother had worried that the fever might shoot up if she didn't wake the child to give medication. Corrigan reassured her that the fever was mild and simply the body's natural response to fighting off an invader, most likely a virus. The doctor advised her to let the baby sleep, unless other symptoms appeared.

"Like many people, this mother mistakenly assumed that having a fever means you're seriously ill," says Corrigan. "I tell patients that fever itself isn't an illness. It's how the body revs up the immune system to defend against infection."

An unwarranted fear of elevated temperature — a common reaction — is called "fever phobia" by Dr Barton Schmitt, a professor of paediatrics. Few people, says Schmitt, realize that fever itself is rarely dangerous, and by treating it aggressively with aspirin or

* All body temperatures in this article use the Fahrenheit scale.

paracetamol, they may actually slow down recovery.

Here are six surprising facts about fever you should know to protect yourself and your family.

1 *The concept of 98.6 degrees F as the body's "normal" temperature is out of date.*

Says University of Maryland's Dr Philip Mackowiak: "The normal temperature is actually a range rather than one single number. And there's a great deal of individual variation."

The body's natural circadian rhythms prompt daily temperature fluctuations of about one degree Fahrenheit, but some people have oscillations as wide as 2.4 degrees or as narrow as 0.1 degree. Children tend to have slightly higher normal temperatures than adults and are more likely to run high fevers in response to infection. Elderly people tend to have lower body temperatures than younger adults.

Ordinary actions can raise temperature: digesting a big meal, being in the sun, prolonged crying in babies, exercise. But body temperature rarely rises higher than about 106.5 degrees — with two main exceptions: a trauma or tumour that damages the hypothalamus (the part of the brain controlling temperature), and, more commonly, heat stroke, which must be treated immediately to prevent damage to body organs, or death.

2 *Taking medication to lower a fever may prolong illness.*

Here's how fever works: When white blood cells recognize an intruder, they release proteins that travel to the hypothalamus and prompt it to raise the body's thermostat. The body reacts to this by generating heat, often through shivering. "Many immunological functions appear to be more efficient at a higher temperature," says paediatrician Timothy Doran of Johns Hopkins University. "And some bacteria and viruses don't grow as well at higher temperatures."

Recent studies show that when animals are exposed to bacteria but prevented from running a fever, many die of infections they might have survived. Doran researched children with chickenpox, and found that "it took those who were given paracetamol about half a day longer to recover" than it did those whose fevers were untreated.

While most people are probably better off not suppressing fevers that cause no discomfort, there *are* exceptions. Coronary patients and those with such chronic conditions as arthritis and diabetes should contact a physician immediately.

To balance the risks and benefits of treating fever, a lot depends on the patient's comfort. "Data show that fever does good, but it also can cause real discomfort — usually beginning at around 101.5 degrees," says Dr Allen Mitchell of Boston University. "If a fever is making you achy and miserable, many doctors recommend taking a medication such as aspirin, paracetamol, or ibuprofen." But, cautions Mitchell, never use aspirin to treat fever in children or adolescents, since it increases the risk of the rare, potentially fatal condition called Reye's syndrome.

3 *A fever doesn't necessarily mean a serious illness.*

"I'm much more concerned about a non-responsive child with a temperature of 101 degrees than a playful child with a temperature of 104," says Dr Daniel Hyman, a paediatrician. "Watch how the patient looks and acts, instead of relying only on the thermometer."

This is particularly important with newborns and the elderly, since their immune systems may not be fully functional and they often won't run a fever even when very ill. Fortunately, nature gives other indicators of infection. A sick infant may stare and have greyish skin or cold limbs. In the frail elderly, look for lethargy and mood change.

4 *"High" fevers rarely cause brain damage or death.*

A temperature needs to soar over 106.5 degrees, and that's unlikely, before there is risk of brain damage. Yet when Dr Schmitt surveyed parents, he discovered that most thought a temperature of 104 degrees or less can cause serious neurological side effects, including brain damage. His study revealed that more than half the parents gave fever-reducing medicine for temperatures of 98.6 to 100 degrees — which are possibly normal.

"Some people get frantic," says Schmitt, "if medication won't get the temperature down to 98.6 F. Yet a correct dose will only bring a temperature down by two or three degrees, so if you start at 103 degrees, the most you can expect is to bring it down to 100."

To counter fever phobia, Schmitt says physicians and nurses "need to tell parents the main reason for treatment is to help the child feel comfortable, not to prevent harm."

5 *If you're sick, there's no need to take your temperature frequently.*

"The time to take a temperature is when your health-care provider asks you," says Dr Michael Rothenberg, co-author of *Dr Spock's Baby & Child Care*. For a doctor, a temperature reading is one of the diagnostic markers used to determine over the phone whether you should come to the clinic.

To find out if you have a fever caused by illness, wait until you've been quiet for an hour or so before using a thermometer. Rectal temperatures are the most accurate and recommended for

young children; oral temperatures are preferred for older children and adults.

A rule of thumb from another expert, Dr Boyd Shook: "Unless your doctor tells you, never wake someone up to take a temperature or give a fever medication. Sleep is very valuable to someone who is sick."

6 If you have a fever, you don't need to stay in bed. Sleep if you want to, but don't feel compelled. "Getting in bed and covering yourself with blankets can accentuate a problem," says medical editor Charles Kennedy. "While it's good to rest and avoid undue fatigue, being supine isn't necessarily beneficial." Rather than forcing yourself or your child to lie still, just relax quietly around the house.

WHEN FEVER strikes, here's what doctors *do* advise:

Call your physician when: an infant three months or younger has a temperature of 100.2 degrees or more; a baby between three and six months has a fever of 101 degrees or greater; a child older than six months has a fever of 103 degrees.

For adults, call the doctor if: a fever is 103 degrees or more; a temperature of 101 degrees lasts more than three days — even if there are no other apparent symptoms; a low-grade fever continues for several weeks.

Also call a doctor for fevers accompanied by: severe headache or stiff neck, mental confusion, sore throat, bad aches and pains, coughing that brings up sputum or blood, inconsolable irritability or excessive sleepiness, rash or vomiting, difficulty breathing and bloody diarrhoea or blood in stools.

Have infected wounds examined promptly. Consult a doctor about fevers over 102 degrees when infections are evident.

Drink plenty of fluids to avoid dehydration. This is particularly important for elderly people, who have a greater risk of complications, such as stroke, when they are dehydrated. Drink frequently enough to pass clear urine every two hours. But heart and kidney patients should check with their physician before forcing fluids.

Eat moderately. It's wise to avoid heavy meals, but you should eat if you're hungry. If you have diarrhoea or have been vomiting, avoid dairy products and stick to bland foods like rice and dry toast.

Try a gentle sponge bath. Children with a 104-degree temperature or higher may be more comfortable if their fever is lowered with a sponge bath. But if the child has been given paracetamol, wait 30 minutes to an hour before the bath. This will avoid chilling the youngster whose temperature is already coming down because of the medicine. Use lukewarm water, since cold water can cause shivers and *elevate* temperature. Avoid alcohol rubs — children may absorb toxic amounts of alcohol through their skin.

Finally, don't panic. Remember: fever is a normal response to infection, and no major problems generally come from fever itself. As paediatrician Suzanne Corrigan puts it: "In many ways, fever is a friend, not a foe."

What Was That Again?

FROM A news item on a cricket match in *The Times of India*, Bombay: "Seam bowler Pringle... said he may have to take a cortisone injection to boot his chances of being fit in time."
— S. Krishnan, Baroda

FROM A report in *The Hindu*, Madras, on a power crisis: "The chief minister has said his proposed tour abroad was to seek investment for augmenting power shortage..." — B. Ramjee, Bangalore

FROM A job vacancy ad in *Deccan Chronicle*, Hyderabad: "Wanted, electronic lady typist..." — Sarosh Koshy, Secunderabad