TOWARDS RATIONAL ANTE NATAL CARE

'ANC' is one of the routine aspects of medical care. Yet certain irrationalities are seen in practice in 'ANC.' The following paragraphs, in a question-answer form, are an attempt to specify scientific answers to common problems related to ANC. These answers constitute the consensus that emerged in the series of discussions at collective and individual level in the Health Committee of the Lok Vidnyan Sanghatana.

QUESTION: In which cases of suspected pregnancy is the pregnancy-test (urinary HCG) essential and why ?

ANSWER: (a) repeated abortions due to corpus luteal deficiency, so that progesterone replacement therapy can be started at the earliest.

(b) Cases of infertility with irregular periods; especially those who are on ovulation induction with clomiphene. This is because if on clomiphene, and period is delayed and pregnancy test is negative, we can have withdrawal of clomiphene; again to start clomiphene in next cycle. And if pregnancy test is +ve then clomiphene need to be stopped.

(c) Pregnancy test is an important adjunct for diagnosis of ectopic pregnancy, to detect it well before it ruptures.

In all other cases of suspected pregnancy, we can wait for two weeks more and diagnose pregnancy clinically. Thus there is no need to do pregnancy-test on each case of suspected pregnancy.

QUESTION: Is it essential for every pregnant woman to undergo sonography ? Does it help to manage the case in a better way ?

ANSWER: Obstetric Sonography is essential when the following clinical findings are present :

i) Pregnancy at any gestational age with uterine bleeding;
ii) For suspected ectopic pregnancy;
iii) Any 'large for date' uterus;
iv) Any 'small for date' uterus;
v) For ruling out molar pregnancy;
vi) Any history of the patient (like consanguinity, HIO drugs, infections, radiation in the period of organogenesis) which might increase the incidence of congenital anomalies.

Though above are the clinical guidelines for ordering sonography, it may be performed routinely in affording patients; as the procedure is a sharper means to detect the surprise abnormalities of pregnancy. Surprise abnormalities do occur, though rarely. They cannot be detected early and with certainty by clinical methods. For example, Neural Tubal Defect, Anencephaly cannot be detected clinically early, whereas I.U.G.R. may not be diagnosed with certainty clinically.

QUESTION: Which is the best time to do U.S.G. ?

ANSWER: The most appropriate time to do sonography in pregnancy is from 16-18 weeks. Before 16 weeks the sonographic picture may not be certain. For example: Neural tubal defect can't be detected with certainty before this.

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Besides detecting any surprise abnormalities, a routine U.S.G. can act as a baseline reading in case of Intra Uterine Growth Retardation is suspected later.

For clinical markers listed above, sonography can, of course, be done earlier than 16 weeks. But if no such warning signals are present and if the number of sonographies is to be kept to the minimum, a reading at 16-18 weeks should be sufficient.

QUESTION : What specific deleterious effects radiation has on pregnancy ? Can routine radiological investigations be safely done ?

ANSWER: Effects of radiation in pregnancy are foetal death, abortions, congenital malformations and increased incidence of childhood neoplasia i.e. carcinomas and leukemias.

These effects are dose-dependent or nondose-dependent and they may or may not have a threshold and hence there is nothing like safe routine radiography in pregnancy.

It should be done only in indicated cases, indispensible for diagnosis and management of the patient.

i) X Ray chest should be done with shielding of abdomen. As 'odelka chest' has high exposure, 'full XRC' is better;

ii) X rays of parts distal to abdomen like XR-limbs/ skull etc. can safely be done with shielding of abdomen;

iii) Pelvimetry: With the present concept of 'trial of labour', generally radiological pelvimetry is not needed. But when needed in dielema, single lateral film of pelvis will yield maximum information;

iv) X ray Abdomen for foetal maturity : now-a-days totally replaced by sonography;

v) X Ray Abdomen for 'Acute Abdomen': has to be done as condition may be life threatening to the mother. If done in the period of organogenesis 'MTP' should be performed;

vi) Renal radiographs : USG is safe and hence should replace renal radiography in pregnancy;

vii) Cold procedures like barium/IVP etc. can be postponed till 2-3 months post-partum.

QUESTION: Does iron in any other form, other than oral Ferrous sulfate has any advantage ?

ANSWER: No ! Contrary to the impression created by the drug industry, ferrous sulfate remains the preparation of choice. According to Goodman Gillman, " Contrary to many advertisements, gastro-intestinal tolerance of all iron preparations is primarily a function of the total amount of soluble elemental iron per dose and of psychological factors and is not normally a function of the form in which iron is administered." . . . . .

" Gastro intestinal absorption of iron is adequate and essentially equal from the following six ferrous salts : sulphate, fumarate, gluconate, succinate, glutamate and lactate. Absorption of iron is lower from ferrous citrate, tartarate, pyrophosphate, cholin-iso-citrate and carbonate."

Sustained release, delayed release, enteric coated preparations tend to transport iron past the duodenum and proximal jejunum and thus reduce absorption of iron. Hence Martindale's Extrapharmacopiea remarks " sustained release or enteric coated products are claimed to produce fewer side effects; but this may only reflect the lower availability from these preparations."

QUESTION: What is the role of addition of vitamins and minerals to iron ?

ANSWER: Since folic acid deficiency is quite common in India and since addition of folic acid has shown to give better results, addition of folic acid is scientifically justified. But none of the other additions has any positive role. For example: addition of minerals like copper and menganese is a worthless gimmick. According to Martindale : " The addition of copper and manganese to iron compounds does not appear to aid the formation of Haemoglobin." " When present in an amount of 200 mg or more, Ascorbic acid increases the absorption of medicinal iron by 30%. However, the increase in uptake is associated with significant increase in side effects; and hence addition of ascorbic acid seems to have little advantage over increasing the amount of iron administered."

Addition of none of the other vitamins, minerals to iron has any role.

Haemoglobin containing preparations give only .75 to 5 mg of elemental iron per 15 ml; out of this 30% may be absorbed. Hence to get 12 mg of absorbed elemental iron (equivalent to 2 tablets of ferrous sulfate) about 120 ml of this tonic needs to be taken daily ! This turns out to be 50 times more costly. Besides, since these haemoglobin tonics are prepared from blood collected from slaughter houses, they may be infected also. They are not available in the developed countries.

Considering above facts, oral $FeSO_4$ remains the best.

QUESTION: When is injectable iron indicated ?

ANSWER: Injectable iron is indicated in the following situations-

i) Extremely noncomplicent patients not taking oral iron;

ii) When oral iron is not well tolerated;

iii) Malabsorption of iron.

However, there is no statistically significant advantage in rapidity of Hb regeneration as compared to oral iron and is associated with many disadvantages. (Ref: Postgraduate Obgy, Dr. Devi, Dr. Menon, Dr. Rao Textbook.) The practice of giving injectable iron when Hb-level is low (below 8 gms %) has no scientific foundation.

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QUESTION: How much calcium should be given in a normal healthy primipara ?

ANSWER: Daily requirement of calcium in nonpregnant state is 800 mg and pregnancy allowance is about 400 mg per day. Use of injectable calcium is quite irrational. Oral calcium is very well tolerated and the amount present in injectable preparations is too low.

One litre milk provides 1 gm of calcium. Affording patients can take 400 c.c. of milk every day.

QUESTION: What is the role of multivitamins in Pregnancy in different socio-economic groups ?

ANSWER: Recommended requirements of vitamins in pregnancy (55 kg/5'4" woman) are as follows :

Vitamin-A	:	800 + 200 IU.	Ref: William's Obstetrics, 16th edition.
" D	:	300 + 200 IU.	
" C	:	60 + 20 mg.	
F.A.	:	0.4 + 0.4 mg.	
Niacin	:	14 + 2 mg.	
Riboflavin	:	1.3 + 0.3 mg.	
Thiamine	:	1.1 + 0.4 mg.	
B_6	:	2 + 0.6 mg.	
B_{12}	:	3 + 1 mg.	
Iodine	:	150 + 25 ug.	
Magnesium	:	300 + 150 mg.	
Zinc	:	15 + 15 mg.	

Multivitamin preparations are needed in poor socio-economic groups whose above requirements are not met with nutrition.

QUESTION: How important is to give advice about care of nipples, exercises and relaxation techniques to be employed during labour ? What advice is to be given ? Which specific postnatal exercises are useful and why ?

ANSWER: Such antenatal advice is of immense importance as a prophylaxis to avoid morbidity in the times to come e.g. :-

Nipples :- If retracted, there is poor sucking and in lactational period can cause fissures, injuries, galactocoeles and breast obscesses.

Simple advice, when detected in antenatal examination is to pull the nipples out about 5 min. every a day, so that desired effect can be obtained until lactation.

- Cleanliness of breasts and nipples;
- Removal of breast secretions and massaging of breast is also advised.

Breathing exercises :- It is important to teach breathing exercises so as to avoid fatigue and maternal distress during labour.

- Breathing exercises improve the compliance and pulm. functions of the patient;
- It is extremely important to teach as to how to

perform Valsalva manouvre and how to relax in between contractions to decrease maternal and foetes distress in second stage of labour.

Postnatal advice for exercises :-

- Important to improve the tone of abdominal and perineal muscles to avoid divarication of recti and uterine prolapses;
- Abdominal tone can be effectively improved by SLR, neck raising etc. on lying flat on hard bed.
- Walking is best exercise, especially fast walking.
- Perineal exercises, include putting perineal muscles in action of contraction intermittently;
- Pressing a pilow between thighs.
- Active efforts like in situations to stop the or defoecation abruptly.

QUESTION: How common is the consumption of alcohol and tobacco in women ? What should be the advice ? Would even little 'Missri' be harmful ?

ANSWER: Alcohol & tobacco consumption is common in tribals and adivasis. Advice is to stop it completely. Alcohol causes 'foetal alcohol syndrome & tobacco in any form is foetotoxic, decreases placental flow and causes IUGR.

Missri :- is quite common is low socioeconomic group of patients and it may not be 'little-missri' but they consume it in gms. and kilograms per month. Hazards are : like tobacco in any form + poor oral hygiene causing gingivitis in already hypertrophied groups of pregnant women.

Betal nuts :- Specific alkaloid is present in nuts and has effect on uterine blood flow.

QUESTION: What is the precise and rational role of use of progesterone in threatened abortion ?

ANSWER: Progesterone is definately useful in repeated abortions if progesterone deficiency is found on serum estimation. In such cases ideal is the use of natural progesterones.

If the threatened abortion is unlikely to be due to progesterone deficiency, use of progesterones is irrational, useless and harmful as well. This is because-

i) use in therapeutic dosages is just a drop in ocean of progesterone secreted by placenta;
ii) Can retain a dead foetus to convert a threatened abortion into missed abortion;
iii) some synthetic progestegens are sometimes leutiolytic than leutiotrophic;
iv) vertebral, anal, tracheoesophageal, renal and limb

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anomalies may occur;

v) Can cause masculinisation of female foetuses.

QUESTION: What are the problems in O.C. pills in postnatal period ? What is the selection ?

ANSWER: Breast feeding and amenorrhoea is not a fool-proof guarantee against conception and hence some contraception is a must. However, OC pills cause decrease in milk output upto 40% ! (Ref : Dr. Devi, Menon, Rao's Post-graduate Ob-Gy Textbook) and hence are not advisable for our poor patients. where majority of nourishment of infant comes from breast milk. The " Progesterone-only " pill ("mini-pill"-Micronor, overet) does not affect milk out-put. Though it is less effective as compared with the combined pill, the failure rate would be low since breast-feeding itself offers some protection.

IUD like 'CuT' though has gone into disrepute due to various reasons, can be taken as near ideal contraception. It is inserted 6 weeks after delivery and even after one caesarian section.

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