

## ANEMIA COMPLICATING PREGNANCY

by

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### SUMMARY

In this study, anaemia in pregnancy is found to be common in the group 20-30 years with gravidity 2 and 3. The incidence of iron deficiency anaemia was 68% dimorphic being 30% and megaloblastic 2%. Apart from poor nutrition, worm infestation and excess bleeding in the previous deliveries were the other causes of anaemia. Hypoproteinaemia was found in 10% of cases the average low protein value being 4-5 gm%. Cardiac failure is the commonest complication (78%) followed by prematurity (24%), pre-eclampsia (16%), IUGR (10%) and abruptio placenta (10%). Packed cell exchange transfusion is found to improve the anaemia and to avoid the complications in the late state. All the treated cases had natural delivery of live babies.

### Introduction

The commonest condition in practice, especially in obstetrics is anaemia. It is one of the commonest causes of maternal and perinatal mortality. In pregnancy, since the plasma volume increases, haemodilution occurs and so the haemoglobin and the haematocrit values drop down. This is called the "Physiological anaemia of pregnancy". The incidence is more in rural population, since they are ignorant of the haemopoietic principles of diet (Mudaliar and Krishna Menon, 1972). Almost all these anaemic women belong to the poor socio-economic group, poor nutrition thus being the leading

cause of anaemia, other causes being worm infestation, frequent pregnancies at short intervals, excess loss of blood during previous deliveries, bleeding piles, peptic ulcer and other blood dyscrasias.

There are three main types of anaemia, first being iron deficiency. Folate and B<sub>12</sub> deficiencies produce megaloblastic anaemia. When all the above three factors are deficient, the resulting anaemia is dimorphic. It is essential to estimate the haemoglobin level at every visit in the antenatal period, so that incipient anaemia may be corrected by oral iron. The absorption of medicinal iron is higher than dietary iron (Hahn *et al*, 1951).

When the anaemia is severe, the mother develops complications like cardiac failure, pre-eclampsia, accidental haemorrhage, puerperal infection and post par-

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tum haemorrhage. Prematurity, still births, neonatal death and congenital malformation are the complications seen in the babies.

The purpose of the present study was to show the most prevalent type of anaemia and to correlate between the degree of anaemia and complications and the type of treatment and its effects on the complications in the mother and baby.

#### *Material and Methods*

Fifty anaemic third trimester patients were examined. All were known to have been suffering from anaemia complicating pregnancy. The haemoglobine values of all of them being below 50%. The detailed case-history about age, gravidity and the causative factors of anaemia were taken. The other complications associated with anaemia were noted. The type of anaemia was studied by peripheral smear and buffy coat in all the fifty cases. Blood clinical investigations like haemoglobine percentage, red cell count, packed cell volume, serum iron and serum protein values were determined. The treatment given to the patients like blood transfusions, total dose imferon infusion and intramuscular imferon injections were entered. Oral iron was given to all the patients. Finally the mode of delivery, maternal and perinatal mortality rate were studied in all the fifty cases.

#### *Results*

##### *(a) Incidence of Anaemia*

Age: The percentage of anaemia is more prevalent in the age group of 20-25 years and the percentage being 40. The incidence is almost equal in the age group of 25-30 years and the percentage being 36. It is less common above 30 years (18%) and least in below 20 years (6%).

Gravidity: In this study out of the 50 cases, only 5 (i.e. 10%) were multi-gravidae. Majority of them are 2nd and 3rd gravidae, both contributing equally to 28% each. The primies and 4th gravidae were almost equal in percentage that is 16 and 18 respectively.

##### *(b) Causitive factors of anaemia*

Socio-economic conditions: In this study all the patients belong to the poor socio-economic condition. All the 50 women's spouses get a monthly income below Rs. 200 showing that they have been taking a diet of very poor nutrition. In addition to the poor socio-economic condition, some women have other causative factors like worm infestation (8 cases), excess loss of blood in previous deliveries (5 cases), peptic ulcer (3 cases) and bleeding piles (1 case).

##### *(c) Complications associated with anaemia*

Thirty-nine cases out of the 50, came with cardiac failure and all of them were in the 3rd trimester. All the 39 cases who were admitted with cardiac failure neither had antenatal check up nor had any treatment. Out of the 11 cases who were admitted without failure.

Prematurity is found to be the next common one (12 cases), 8 (16%) cases had pre-eclampsia, abruptio placenta (5 cases) and intra-uterine growth retradation (5 cases). Out of these 50 cases one had megaloblastic anaemia, 5 dimorphic anaemias and 2 iron deficiency anaemias.

Relationship of haemoglobin (Hb) with the above complications were also studied. The incidence of all the complications are more in cases with Hb below 40%. All the complications are much less where the Hb% is between 40% and 50%.



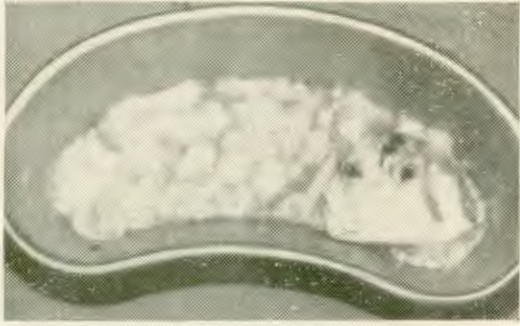


Fig. 1  
The specimen showing cut hydatid cyst exposing multiple cysts.



Fig. 1  
Showing puerperal gangrene.

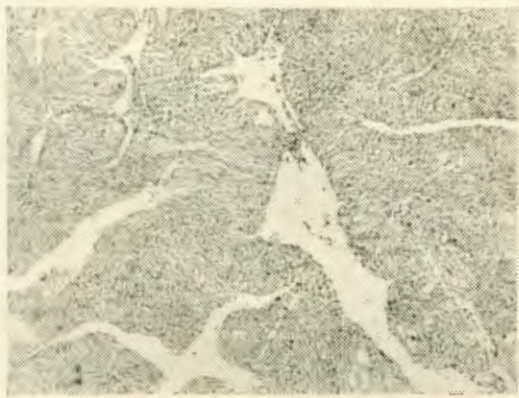


Fig. 1  
Photomicrograph showing tumour cells in between endothelium lined spaces in Haemangiopericytoma (H + E x 50).

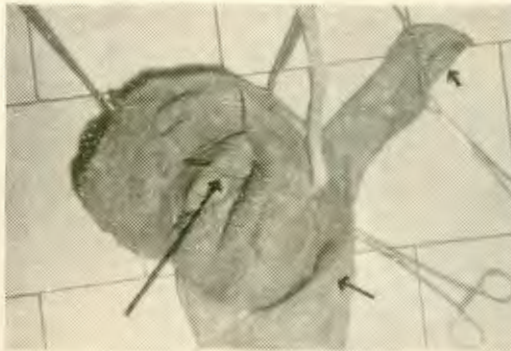


Fig. 1  
The placenta is bilobed connected by thick membrane with peripheral (battle door) insertion of the cord. Vessels are seen in the membranes in between the lobes of the placenta and around the placenta.



**THE FEDERATION OF OBSTETRIC & GYNAECOLOGICAL SOCIETIES  
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The XXIXth All India Obstetric & Gynaecological Congress will be held at Bombay (Maharashtra) on 28th, 29th and 30 December 1985 (both days inclusive). The Managing Committee Meeting will be held on 26th December and the General Body meeting will be on 27th December 1985.

The subjects for discussion of the Congress will be as follows:

- i. Sexually transmitted diseases.
- ii. Active Management of labour.
- iii. Neonatal morbidity and mortality upto 28 days.
- iv. Miscellaneous papers.

Besides these there will be (1) FOGSI Rallis Oration, (2) FOGSI Oration and lectures by some other guest speakers. The last dates for receipt of the abstracts and full texts of scientific paper (each in triplicate) to be presented at this congress are 31st August 1985 and 30th September 1985 respectively. The abstracts and the full text (each in triplicate) should be sent to the Hon. General Secretary, at the Federation office along with a letter stating the date on which the registration fee has been forwarded to the Organising Secretary of the Congress. **Abstract should not exceed 250 words.**

**The full text of the paper should not exceed 4 full scape double spaced typed pages inclusive of list of references and should not have more than eight tables and/or diagrams.**

**FOGSI shall have all the rights regarding the publication of the abstracts and the papers.** The person presenting the scientific paper must be a member of one of the memberbodies, affiliated to our Federation and should have paid his Conference Registration fee by 31st August 1985. In view of the above kindly furnish the following information along with the abstract.

1. Name of the member presenting the paper.
2. Name of the Society to which he/she is an active member.
3. Year of graduation.

Each registered delegate will be allowed to present only one paper.

Those members who have passed M.B.,B.S. within 7 years are eligible for the Mrs. Indumati Jhaveri Prizes for the official themes: Those members who have passed M.B.,B.S., more than 7 years ago will be eligible for Dr. C. S. Dawan Prizes for the official themes. Dr. C. I. Jhaveri Prizes will be awarded to the First Three best papers of the Miscellaneous group.

The registration fee will be Rs. 350/- including Rs. 110/- as delegate fee. Late registration fee will be Rs. 450 from 1-11-1985 till 15-12-1985. Spot registration fee i.e. from 16-12-1985 will be Rs. 500.

For further details about registration, accommodation etc. kindly write to Dr. S. D. Khandwala, Organising Secretary, XXIXth All India Obstetric & Gynaecological Congress, Purandare Griha, 31/C Dr. N. A. Purandare Marg, Bombay 400 007.

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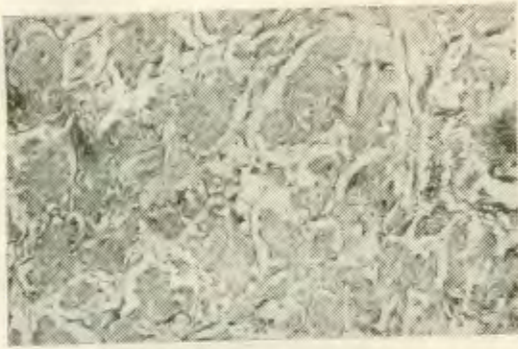


Fig. 1  
Photomicrograph showing tumour cells arranged in alveolar pattern, supported by endothelial-lined vascular channels. H. & E. x 100.

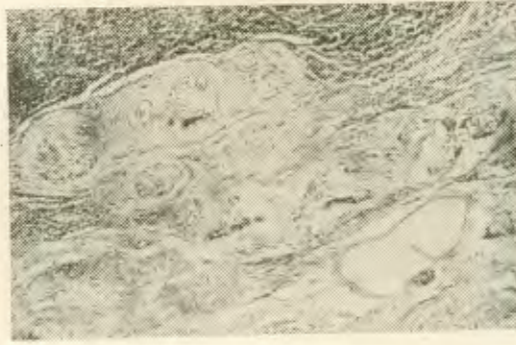


Fig. 2  
Photomicrograph showing metastasis in the lymph node. Haematoxylin & E x 100.



Fig. 3  
Gross appearance of the well encapsulated tumour.



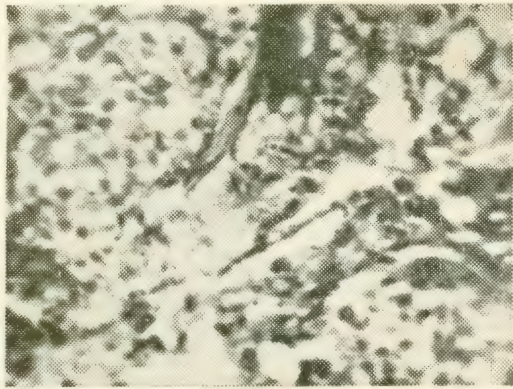


Fig. 1

Low power microphotograph showing reticular network of embryonal cells.

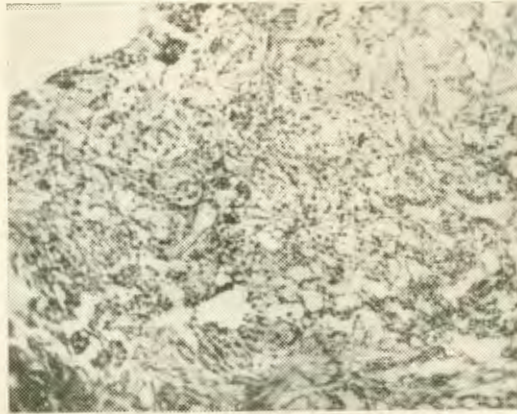


Fig. 2

High power microphotograph showing malignant embryonic epithelial cells.

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*Primary Ovarian Pregnancy—Penkar et al pp. 418-419*

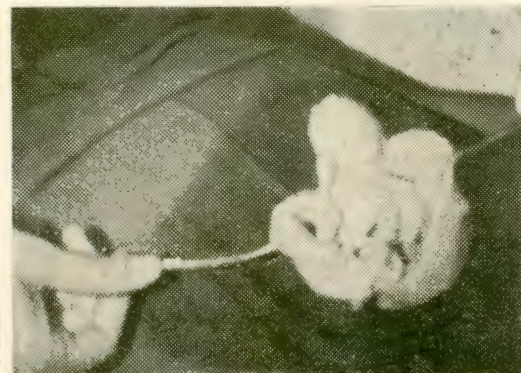


Fig. 1

Shows well formed fetus of 14 weeks size of gestation with placenta inside the cystic swelling of the ovary.



Fig. 2

Shows well formed fetus of 14 weeks size with placenta outside the cystic swelling of the ovary.



*(d) Type of anaemia*

The peripheral smear and buffy coat were studied in all the 50 cases. Majority of cases (68%) showed normocytic hypochromic cells in the peripheral smear, proving that the iron deficiency anaemia is the most common one. Some of them (30%) showed macrocytic, hypochromic cells in the peripheral smear, the anaemia thus being dimorphic. There was only one case of pure megaloblastic anaemia, whose Hb was 50%.

*(e) Blood clinical investigations*

Blood clinical investigations like Hb%, red cell count in millions, packed cell volume, serum iron, serum proteins albumin and globulin were conducted.

Haemoglobin percentage: 24, 36, 26 and 16 per cent of cases had Hb values between 30%-35%, 35%-40%, 40%-45% and 45%-50% respectively.

Red cell count: The red cell count varied from 1-2.5 millions of cells in cu.m.m. Twenty-four per cent of cases had a count of 1-1.5 million cells, 46% had 1.5-2 million cells count and 30% had 2-2.5 million cells.

Packed cell volume: Regarding packed cell volume 13%-18% was estimated in 64% of cases and 18%-20% was found in 36% cases.

Serum iron: 68% of cases had an average volume value of 75-85 ug% of serum iron. 32% of cases showed an average volume of 65-75 ug%.

Serum proteins: The total serum protein value of 4-5 gm% showed hypoproteinaemic features and that values were found in 10% of the cases. 42% of cases showed a total protein value of 5-6 gm% and 48% had 6 gm% and more. The majority of cases, 70% showed serum albumin 3-4 gm% and 30% showed 2.5-3

gm%. The same 70% had globulin of 3-4 gm% and 30% had 2-3 gm%.

*(f) Treatment*

Blood transfusions, total dose imferon infusion and intramuscular imferon injections are the 3 major methods of treatment. Oral iron was given to all the patients. The commonest method of treatment that was resorted to is blood transfusion, accounting to 72%. Total dose imferon infusion was given to 10% of cases and intramuscular iron injections were given to 18% of cases. When the Hb value goes below 50%, oral iron alone is not given.

Packed cell exchange transfusion was found to be the best method of treatment. Some patients had packed cell exchange transfusion followed by packed cell transfusion. Whole blood was given to 3 cases only in their post natal period.

All the cases had Hb values below 50% and after treatment, 35 out of the 50 showed Hb value above 60%. Fifteen cases had the Hb values 50%-60% after treatment.

*(g) Mode of delivery*

Many cases that is 96% delivered naturally. 24% of these cases had term delivery. Of the 12 premature deliveries, 10 were still births and 2 alive.

*(h) Mortality rate*

None of the 50 mothers died due to anaemia. Perinatal mortality was found to be 11 of which 10 were premature still births and 1 live premature child.

*Discussion*

Anaemia is the most common complication in pregnancy. It is more prevalent in the 2nd and 3rd gravida than in primies.

The incidence of anaemia increases with parity.

Iron deficiency anaemia is the most common one accounting to 68%. Deficiency of all the 3 factors leads to dimorphic anaemia. Folic acid deficiency is particularly said to be one of the causes of abruptio placenta, abortions and foetal malformations (Hibbard, 1964). The folate supplemented mothers produced heavier infants than the mothers supplemented by iron alone (Iyengar and Rajalakshmi, 1975).

Poor socio-economic status is frequently accompanied by malnutrition and thus iron deficiency, folic acid, B<sub>12</sub> deficiency and protein deficiency also. When protein deficiency shows a total protein value below 5 gm%, symptoms of hypoproteinaemia also complicate anaemia.

Moderate anaemia responds well to injection inferon intramuscular with an average rise of Hb by 1 gm in one week. To maintain the iron balance, 4-6 gms of iron should be taken by a pregnant woman (Menon *et al*, 1980). The iron absorption during pregnancy increases to a considerable extent (Apte and Iyengar, 1970). If the moderately anaemic women present in the third trimester, since they may develop failure, we resort to total dose inferon infusion. But, since most of them come only in the third trimester and many of them with failure, packed cell transfusion is found to be the best method of treatment.

In this work, 39 cases out of the 50 received packed cell transfusion. For severe cases with Hb levels below 40%, 3-5 packed cell transfusions were given at intervals of about a week, 2-3 of them were exchange transfusions. With such treatment, all the cases showed good improvement in the Hb values. All the cases had normal term deliveries except 2 who had premature live babies. All the 50 cases received intramuscular inferon injections every day till discharge.

In this study of 50 cases there was no maternal death and no post partum haemorrhage. Cardiac failure was found to be the commonest complication, next being pre-maturity.

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