

## INTENSIVE TREATMENT OF ANAEMIA

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Wide-spread anaemia poses a serious problem in the treatment of female patients in Calcutta. It is more so in pregnancy, as also in gynaecological conditions with chronic blood loss.

In busy city hospitals these anaemic patients cause a serious problem for their optimum treatment which results in a prolonged stay in the hospital. In anaemic cases due to acute blood loss, the required amount of blood to be replaced is not always easily available. In recent days the demand for blood transfusion has also been increased.

So to minimise the prolonged stay, so to say to lessen the congestion in crowded hospitals and to cut down

the extra requirement of blood transfusion the present study was carried out.

### *Material and Methods*

The patients selected for the treatment in the present study were taken at random from the emergency admissions and from out-patients department during the period starting from 1st January to 31st May 1964. For the purpose of treatment the patients were classified into the following categories:

A—Anaemia complicating pregnancy.

B—Anaemia in association with gynaecological conditions.

With regard to "A" the patients were divided into 4 groups in relation to the level of haemoglobin percentage:

Group 1—Hb.% less than 5 gm%.

Group 2—Hb.% ranging between 5 gm% and 7.5 gm%.

Group 3—Hb.% ranging between 7.5 gm% and 10 gm%.

Group 4—Hb.% 10 gm% or above.

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Group 1 patients are the difficult ones to tackle, more so if labour pains supervene. The maternal mortality in these cases before the present study was more or less 90%. The foetal mortality was high.

For these patients exchange blood transfusion offers the best results even in the presence of labour. For this purpose 250 ml. to 800 ml. of the patient's blood was drawn out and simultaneously equal quantity of concentrated corpuscles was transfused to keep the blood volume unaltered. As a premedication before transfusion Inj. pethidine hydrochloride 100 mgm. and Inj. Antistin

20 mgm. intra-muscularly were given as a routine. During transfusion or afterwards no untoward symptoms were complained of.

The blood which was drawn out of the patient was sent to the Blood Bank immediately and was transfused after 2 days in the form of concentrated corpuscles.

During the period of study, 10 exchange transfusions were carried out. The time taken for the exchange transfusion varied between 20 to 45 minutes. Improvement in the level of haemoglobin in the subsequent weeks and ultimate result has been tabulated below.

TABLE I  
*Exchange Transfusion in Obstetrical Cases*

Sl. No.	Name	Original Hb%	Amount of ex. trans. (RBC)	Rise of Hb.%			Remarks
				1st week	2nd week	3rd week	
1.	K	3.8 gm%	250 cc	5.0 gm%	2 gm%	8.4 gm%	Patient confined normally and went away against medical advice.
2.	NKR	4.5 "	600 cc	6.5 "	8.5 "		Confined normally and discharged.
3.	BS	4.3 "	300 cc	6.2 "	7.4 "		—do—
4.	AD	5.2 "	600 cc	7.0 "	8.8 "		—do—
5.	SD	4.6 "	500 cc	7.2 "			—do—
6.	NB	3.5 "	300 cc	6.0 "			Confined normally and is in ward.
7.	NR	4.3 "	300 cc				Patient waiting in ward.
8.	JP	3.4 "	600 cc	8.4 "			Confined normally and discharged.
9.	TD	2.5 "	800 cc	7.8 "	9.0 "		Admitted as a case of puerperal pyrexia, waiting in ward.
10.	BD	3.5 "	610 cc	6.0 "	8.5 "		Pregnancy carrying 36 weeks, not confined yet, patient is in ward.

Group 2 patients do not impose so much difficulty unless they are in labour. These patients if treated by oral or intra-muscular iron, in addition to usual supportive therapy, require prolonged time for treatment and in cases where labour pains supervene the maternal and foetal mortality becomes high. To save this vexed problem massive intravenous iron therapy achieved tremendous success. It has been calculated that 100 mgm. of "Imferon" (saccharated oxide of Iron) raised Hb.% by 4. Thus the required amount to be infused was calculated

were minimum, excepting in one case where there was a rigor. After infusion, in 2 cases, there was rise of temperature in the evening and the patients complained of headache. The headache was relieved by analgesics and the temperature became normal on the following day. The percentage of haemoglobin was determined before infusion and subsequently after infusion. High protein diet was given to all the patients.

The results of massive Imferon therapy in Group 2 patients are tabulated in Table 2:

TABLE II

Rise of Hb.% in gram	Number of patients				
	1st week	2nd week	3rd week	4th week	Above
Up to 1 .. ..	2				
1-2 .. ..					
2-3 .. ..	1		1		
3-4 .. ..	1				
4-5 .. ..				1	1
5-6 .. ..					
6-7 .. ..		1			
7-8 .. ..					

ed easily. The required amount of Imferon was diluted with 540 ml. of 5% dextrose solution and was infused. The amount of Imferon infused in the present study varied between 0.8 gm. to 1.7 gm. and on an average 1 gm. As a premedication one sedative was given by intramuscular route to allay patient's apprehension. To start with, the fluid was given at the rate of 15-18 drops per minute and after observing the patient for 15-20 minutes, the rate was increased to 40 to 50 drops/min. The time taken for the whole amount of infusion varied between 3 and 5 hours. During infusion the compli-

Group 3 patients formed a relatively favourable group. They were treated by oral or intra-muscular iron with folic acid and other adjuvant therapy. The patients in this group comprise two groups—(1) with oral therapy and (2) with intramuscular therapy. The results of treatment have been tabulated in Table 3A and Table 3B respectively.

Group 4 patients (22 cases) do not impose any problem and with required diet and antianaemic therapy the percentage of haemoglobin can be brought to the level of 14 gm.% and the patients can be treated at their home.

TABLE IIIA  
Results of Treatment in Cases Treated by Oral Therapy—34 Cases  
(Iron & Folic Acid therapy)

Rise of Hb.% in gm.	No. of patients				
	1st week	2nd week	3rd week	4th week	Above
Up to 1 .. ..		2		1	
1-2 .. ..		2		3	1
2-3 .. ..		2	4	2	1
3-4 .. ..			3	1	1
4-5 .. ..			2	1	5
5-6 .. ..					1
6-7 .. ..			1		
7-8 .. ..					1

34 cases

TABLE IIIB  
Results of Treatment in Patients Treated with Intra-  
muscular Therapy—22 Cases

Rise of Hb.% in gm.	No. of patients				Above
	1st week	2nd week	3rd week	4th week	
Up to 1 .. ..				1	
1-2 .. ..				2	
2-3 .. ..		1	3	1	1
3-4 .. ..				2	1
4-5 .. ..		1	3	2	1
5-6 .. ..					1
6-7 .. ..			1		
7-8 .. ..					1

22 cases

With regard to 'B', the gynaecological cases like metropathia haemorrhagica, pubertal menorrhagia and fibro-myomata, and even cases of extreme anaemia from incomplete abortion who are suffering from different grades of anaemia can be treated satisfactorily by massive Imferon therapy as already stated.

The results of treatment of massive intravenous Imferon therapy have been tabulated in table 4.

#### Laboratory Investigations

Elaborate investigations, though they have academic interest, are of less importance when one has to fight with time. It may be conceded that haemoglobin in gms. estimations by haemoglobino meter suffices the purpose, particularly in cases of emergency. Complete haemogram and routine investigations have been done before and after treatment in subacute forms.

TABLE IV

*Results of Treatment of Gynaecological Cases with Anaemia  
by Massive Intravenous Imferon Therapy—7 Cases*

Sl. No.	Initials	Hb.% on admission	Hb.% 1st week	Hb.% 2nd week	Hb.% 3rd week	Remarks
1.	AMR	6.1 gm.	11 gm.	12 gm.	x	Functional uterine bleeding. Pan-hysterectomy done on 2nd week. Result good.
2.	KM	6.8 "	11.5 "	12.5 "	13 gm.	Functional uterine bleeding. Patient was discharged when bleeding stopped.
3.	SBM	7 "	8.4 "			Hypertrophied elongation of cervix; amputation of cervix done in 1st week. Result good.
4.	AD	7 "	11.8 "	12.2 "		Pubertal menorrhagia, discharged when cured by medicine.
5.	RS	5 "	8 "	10.3 "		Incomplete abortion. D.C. done on admission. Discharged on improvement of Hb.%.
6.	GD	9.5 "	7 "	10 "		Pubertal menorrhagia, discharged when cured by medicine.
7.	BRP	6.2 "	10 "	11.1 "		H. mole with fibroid uterus. Evacuation of mole done 2nd week, 7 days later panhysterectomy was done. Result good.

#### *Discussion and Summary*

1. It has been amply illustrated by the tables that the results have been most encouraging. As has already been pointed out, appalling maternal mortality in patients with less than 5 gm.% has been controlled. There has been no maternal mortality when partial exchange transfusion could be carried out.

2. Where massive Imferon therapy was carried out in pregnancy and for gynaecological cases there was also no mortality. Moreover, undue pressure on the blood bank has been curtailed. Today this

point has an added value, as calls on the resources of the blood bank are minimised by this form of therapy.

3. Lowered haemoglobin level has been the criterion in selection of cases for therapy and though types of anaemia were not very much taken into consideration results show that improvement in haemoglobin has given the most encouraging picture.

4. The study further proves the value of massive iron therapy in gynaecological cases with bleeding. In all of these cases no blood trans-

fusion was necessary before, during or after the major operation.

### Conclusions

1. Partial exchange transfusion can save the mothers in labour even if associated with severe anaemia and circulatory failure.

2. Massive iron therapy has improved the haemoglobin level within a very short time, both during pregnancy and in gynaecological cases, so that patients could stand the hazards during labour or operation.

3. This sort of I.V. iron therapy has minimised convalescence and stay in the hospital as well as the pressure on the blood bank.

This being a preliminary report, we hope to report in greater detail, a substantial number of cases, in future.

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