

COMPARATIVE EVALUATION OF MANAGEMENT OF ANAEMIAS BY ORAL (HEM 12) AND PARENTERAL (UNIFERON AND UNIFERON F12) THERAPY IN OBSTETRICAL AND GYNAECOLOGICAL PRACTICE

by

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Anaemia is a very common condition in our country. It is a perpetual problem particularly in our female population. In a developing country like ours apart from the factors of chronic malnutrition due to dietetic habits, factors like helminthic and protozoal infestation add to the severity of the condition. Anaemia, when it complicates pregnancy, is perhaps the most important cause of maternal mortality in our country and it also results in increased morbidity in the gynaecological patients.

Although iron deficiency anaemias are encountered to a great extent, the occurrence of dimorphism in some series were outstanding. True megaloblastic anaemia is not common in our country. Many advocate folic acid and Vit. B₁₂ therapy along with iron during pregnancy. Menon *et al* (1964) showed definite lower values of folic acid and slight low value of Vit. B₁₂ during pregnancy.

This might be due to increased foetal demand or relative hypovitaminosis due to hydraemia. The observations of Upadhyay (1969) on the thera-

peutic aspects of anaemia in pregnancy is also noteworthy.

The advantages and drawbacks of management of anaemias by oral and parenteral therapy have been observed by various workers. Addition of folic acid and B₁₂ along with iron may have some advantages.

The present study is undertaken to evaluate the actual state of affairs in the management of anaemias by oral and parenteral preparations having iron with or without folic acid and Vit. B₁₂ in the Obstetrical and Gynaecological patients in our surroundings.

Material and Methods

The patients chosen for the study belonged to hospital class. The study was conducted in 130 patients attending the out patient department of Obstetrics and Gynaecology in I.P.G.M.E. & R and S.S.E.M. Hospital Calcutta from December 1977 to May 1978. The criteria of selecting the patient was haemoglobin level below 10 gms. per cent in both obstetrical and gynaecological patients for convenience. The patients with other complications were excluded from the study.

Patients were selected after proper history taking, thorough clinical examination and haemoglobin estimation at the

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first visit. In all the cases under study routine stool, urine examination, complete haemogram, serum iron and folate levels were estimated. Serum iron binding capacity and serum Vit. B₁₂ estimation could not be done. In few cases, other investigations, like X-ray chest etc. were done whenever necessary.

After proper assessment, the patients were grouped within 4 groups and each group was treated in a different way.

Group I: In 50 moderately anaemic patients otherwise uncomplicated, HEM 12 capsule was given in a dose of 1 capsule daily after lunch for 2 months. Patients having gastro-intestinal disturbances were not taken into Group I. They were put into Group II and Group III.

Group II: In 30 severely anaemic patients, injection Uniferon was given, one ampoule deep intramuscularly daily for 10 to 15 days depending on the severity of anaemia followed by HEM 12 capsule, 1 capsule daily after lunch.

Group III: In another 30 severely anaemic patients injection Uniferon F12 was given, 1 ampule I.M. daily for 10 to 15 days and followed by HEM 12 capsule in

some case as in Group II.

Group IV: In 20 cases of moderate anaemia and having no G.I. symptoms, tablet Ferrous Sulphate (200 mg) one tablet 3 times daily was given. This group was studied only to act as a control group. They were similar as in Group I.

Supplementary therapy with Unimezol (metronidazole), anti-helminthics and protein was done in necessary cases.

After starting the therapy, follow-up of the patients were done at 2 weeks interval upto 8 weeks. In the follow-up haemoglobin %; R.B.C. and reticulocyte count, serum iron and serum folate levels were estimated in all the 4 groups of patients.

Serum iron was estimated by the method of Ramsay (1958), while that of folate was estimated by the method of Varley (1969).

Any intolerance or side effects like constipation, diarrhoea, joint pain, pain and swelling at the site of injection etc. were noted carefully.

Observations

Our observations are shown in the accompanying tables.

TABLE I
Distribution of Obstetric and Gynaecological Patients

	No. of cases	Percentage
No. of Obstetric patients (Antenatal)	85	65.35
Between 16-20 weeks	35	27
" 21-24 weeks	25	19.175
" 25-28 weeks	20	15.35
Above 28 weeks	5	3.825
No. of Gynaecological patients	45	34.65
Fibroid uterus	5	3.825
D. U. H.	20	15.35
Others (excluding Malignancy)	20	15.35
Total	130	100

D.U.H. — Dysfunctional uterine bleeding.

TABLE II
Haematological Conditions Before Therapy

Groups	Haemoglobin in Gm.%		R.B.C. in million/cmm		Reticulocyte count in %	
	Average	Range	Average	Range	Average	Range
Group—I	8.1	6.9-9.7	3.3	3.3-8	.5	0.27
Group—II	7.2	5.8-8.6	3.1	2.9-3.5	.54	0.25
Group—III	6.1	5.4-8.4	2.9	2.7-3.4	.7	0.3
Group—IV	8.4	7.2-9.8	3.4	3.2-4	.45	0.2

TABLE III
Serum Iron and Serum Folate Level Before Therapy

	Serum Iron (microgram %)		Serum Folate (mg/ml)	
	Average	Range	Average	Range
Group—I	84	58.5-131	7.9	5-11
Group—II	67	45-108	6.8	4.3-10.5
Group—III	65	42-98	6.3	4.4-10.1
Group—IV	87	61-132	8.2	5.1-10.2

TABLE IV(a)
Haematoglogical Changes After Therapy

Group I Cases:

		2 weeks	4 weeks	6 weeks	8 weeks
Hb% in Gm. %	Average	9.5	9.9	10.6	11.2
	Range	8.1-10.5	8.9-10.9	9.2-11.7	10.5-12.6
Serum Iron in microgram %	Average	106	128	149	481
	Range	78-164	84-184	116-200	120-216
Serum Folate in ng/ml.	Average	8.8	9.5	9.9	11.1
	Range	6.3-18.2	6.9-18.4	7.1-18.5	7.2-18.6

TABLE IV(b)

Group — III Cases:

		Before therapy	2 weeks after therapy	4 weeks after therapy	6 weeks after therapy	8 weeks after therapy
Hb% in Gm. %	Average	7.2	8.9	9.5	10.2	11.0
	Range	5.8-8.6	7.9-9.6	8.6-10.2	9.2-11.0	10.5-12.2
Serum Iron in microgram %	Average	67	112	132	161	189
	Range	45-108	78-148	97-157	124-184	149-190
Serum Folate in ng/ml	Average	6.8	7.1	8.6	9.8	10.5
	Range	4.3-10.5	6.5-16.4	7-17.2	8.8-17.4	9.9-19.1

TABLE IV(c)

Group — III Cases:

		Before therapy	2 weeks after therapy	4 weeks after therapy	6 weeks after therapy	8 weeks after therapy
Haemoglobin in Gm. %	Average	6.1	9.3	10.2	10.9	12.1
	Range	5.4-8.4	7.4-10.6	9.1-11.0	10-11.8	10.9-12.9
Serum Iron in Microgram %	Average	65	113	130	159	184
	Range	42-98	69-141	91-162	119-185	145-198
Serum Folate in nanogram/ml	Average	6.3	9.2	9.9	10.4	11.4
	Range	4.4-10.1	7.0-17.5	8.2-17.9	8.9-19.0	9.7-19.6

TABLE IV(d)

Group — IV Cases:

		Before therapy	2 weeks after therapy	4 weeks after therapy	6 weeks after therapy	8 weeks after therapy
Haemoglobin in Gm. %	Average	8.4	8.9	9.1	9.4	10.0
	Range	7.2-9.8	8.0-9.5	8.5-9.9	8.9-10.2	9.8-10.5
Serum Iron in microgram %	Average	87	99	105	112	131
	Range	61-122	12-128	75-135	92-142	102-162
Serum Folate in nanogram/ml	Average	8.2	8.3	8.4	8.4	8.5
	Range	5.1-10.2	5.2-11.7	6.0-12.4	6.1-12.4	6.2-13.0

TABLE V

R.B.C. and Reticulocyte Counts Before and After Therapy

	R.B.C. count in million/cm (average)			Reticulocyte count in % (average)		
	Before therapy	After 2 weeks of therapy	After 8 weeks of therapy	Before therapy	After 2 weeks of therapy	After 8 weeks of therapy
Group—I	3.3	3.55	4.2	.5	6	1
Group—II	3.1	3	4.1	.54	5	1
Group—III	2.9	3.6	4.3	.7	10	2
Group—IV	3.4	3.5	3.8	.45	2	1

TABLE VI
Complications in Different Groups of Patients

Complications	Group-I		Group-II		Group-III		Group-IV	
	After 2 weeks	After 8 weeks	After 2 weeks	After 8 weeks	After 2 weeks	After 8 weeks	After 2 weeks	After 8 weeks
Constipation	2 cases (4%)	4 cases (8%)	Nil	1 case (3.3%)	Nil	1 case (3.3%)	1 case (5%)	2 cases (10%)
Indigestion	Nil	Nil	1 case (3.3%)	Nil	Nil	Nil	Nil	Nil
Flatulence	1 case (2%)	Nil	1 case (3.3%)	Nil	1 case (3.3%)	Nil	Nil	Nil
Diarrhoea	1 case (2%)	Nil	Nil	Nil	Nil	1 case (3.3%)	Nil	1 case (5%)
Joint Pain	Nil	Nil	1 case (3.3%)	Nil	1 case (3.3%)	Nil	Nil	Nil
Pain and induration at the site of Injection	Nil	Nil	1 case (3.3%)	Nil	1 case (3.3%)	Nil	Nil	Nil
Rise of temperature	Nil	Nil	2 cases (6.6%)	Nil	1 case (3.3%)	Nil	Nil	Nil
Abscess formation at the site of Injection	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

Discussion

In the female population of our country, a dimorphic type of anaemia is mostly encountered. In some of these cases a lower value of Vit. B₁₂ has also been demonstrated by some workers like Menon *et al* (1964). The deficiency of folic acid and Vit. B₁₂ along with iron is mostly marked in antenatal patients. There is progressive fall in Serum B₁₂ and Folic Acid level as pregnancy advances (Menon *et al* 1964). Thus treatment of anaemias during pregnancy and various other gynaecological conditions with folic acid and Vit. B₁₂ along with iron has been advocated by many workers (Menon *et al* 1964, Upadhyay, 1969). The fall of serum folate and Vit. B₁₂ during pregnancy has been attributed to increase

fetoplacental demand or relative hypovitaminosis due to hydraemia.

The normal value of Serum folic acid is variable. Baker *et al* (1958) reported serum folic acid activity of normal pregnant women to range from 1 to 100 ng/ml. Cooperman *et al* (1960) state that values less than 7.5 ng/ml are indicative of folic acid deficiency. Ikeda (1963) from Japan found that in normal non-pregnant the average serum folic acid level was 9.41 ± 0.19 ng/ml with a tendency to decrease impregnancy. Later on Varley, (1969) measured the serum folate level and found that normal range of serum folate ranges from 5 to 20 ng/ml.

As in serum folic acid activity the serum Vit. B₁₂ level is also variable. Boger *et al* (1956) found the average value of 560 microgram/ml. H. Baker *et*

al (1959) have accepted values above 200 microgram/ml as normal.

Serum iron value is also variable. According to Ramsay (1958) the value ranges from 60-200 microgram per 100 ml.

Therapy of anaemias have been tried by many workers with various drugs. Mitra and Das (1978) did a study on anaemic patients by treating them only with tablet Ferrous-Sulphate. In their study haemoglobin rose from initial value of 8.03 ± 1.25 mg.% to 10.38 ± 1.03 Gm.% in 8 weeks time and to 12.75 ± 1.31 Gm.% after 28 weeks of therapy. Others like Saxena *et al* (1973) have advocated total dose infusion of iron in diluted and undiluted form with variable results; while Menon and Willmott (1963) treated desperate cases of anaemia during pregnancy with exchange transfusion.

In the present study we have tried the anaemic patients attending our O.P.D. with Hem₁₂ capsule (containing iron, folic acid and Vit. B₁₂ in adequate quantity along with other haemopoietic factors) and Ferrous-Sulphate tablets by oral route and with Uniferon (iron carbohydrate complex) and Uniferon F₁₂ (iron carbohydrate complex with folic acid and Vit. B₁₂) by parenteral route followed by Hem₁₂ capsule orally.

In our study, the results of the therapy with only Ferrous-Sulphate was unsatisfactory. Maximum response of the therapy was found with Uniferon F₁₂ injection, raising the haemoglobin by 3.2 Gm.% in 2 weeks time. The response with Hem₁₂ capsule was also satisfactory by raising the haemoglobin by 1.4 Gm.% in 2 weeks time. The results with Uniferon injection without folic acid and Vit. B₁₂ was not as good as with Uniferon F₁₂. The rise of haemoglobin

after 2 weeks was only 1.7 Gm.% with Uniferon as against 3.2 Gm.% with Uniferon F₁₂.

The complications in the series were not high. Only in very few cases there were complications like constipation, diarrhoea, flatulence, joint pain and mild rise of temperature.

Summary and Conclusion

1. One hundred and thirty cases of anaemias in obstetrical and gynaecological patients were studied by treating them with various drugs i.e. Hem₁₂; Uniferon; Uniferon F₁₂ and Ferrous-Sulphate.

2. Serum Iron and Folate level before and after therapy were studied along with other haematological parameters.

3. The response to treatment, the complications and other observations are discussed.

4. The results were satisfactory with oral Hem₁₂ capsule and parenteral injection Uniferon F₁₂.

5. The result was most satisfactory in the antenatal cases than in the Gynaecological patients.

6. It is concluded that Hem₁₂ capsules are extremely helpful in all the anaemias found in female population and more so during pregnancy, and that in cases where immediate response is required, injection Uniferon F₁₂ is very much satisfactory.

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