

INTRAVENOUS IMFERON DRIP IN CASES OF SEVERE ANAEMIA

by

SHIRISH S. SHETH,* M.D., F.C.P.S., D.G.O.

and

V. WALVEKAR,** M.B.B.S.

Anaemia during pregnancy is the commonest cause of maternal mortality in our country. The fact that 90.6 per cent (Sheth) of patients are suffering from anaemia during pregnancy makes it more significant and vital. On detailed study it has been shown that iron deficiency anaemia is the commonest type. This in moderately or severely anaemic cases involves administration of intramuscular iron for 10 to 20 days. Since the patient stays in the wards purely for receiving intramuscular injections, it is desirable to give the treatment in the shortest time and spare hospital beds. This is answered by "Intravenous Imferon Drip" wherein the needed dose is given in one day instead of many days. Sequeira and Parikh have reported satisfactory results in cases treated at Wadia Maternity Hospital, Bombay.

The present study comprises of 75 cases of intravenous Imferon drip

given in moderate and severe cases of anaemia in the obstetric department of K.E.M. Hospital, Bombay, for the two years 1966 and 1967. All cases had haemoglobin percentage of 50 or less. They were investigated in detail before administration of the drip.

Investigations

These were: 1 complete haemogram, 2 bone marrow biopsy, 3 plasma proteins, 4 serum iron levels, 5 urine culture, 6 stool examination, 7 renal function and 8 hepatic function tests. Investigations like folic acid, B 12 estimations and gastric analysis were not done in all cases.

Haemogram revealed haemoglobin percentage in 40 patients below 30 and in 35 patients between 31 to 50. Average P.C.V. was 20%; M.C.V. and M.C.H.C. were 70% and 21% respectively, readings being lower in severe cases than moderate cases. (below 30%).

Bone marrow biopsy is an indispensable investigation in severe cases of anaemia as it reveals the type of anaemia and directs the line of treatment. This biopsy revealed that iron deficiency anaemia was present in 50, megaloblastic preponderance in 14 and dimorphic type in 11 cases. This

*Asst. Prof. & Hon. Asst. Obstetrician & Gynaecologist,

**House Surgeon,

Dept. of Obstetrics & Gynaecology
K. E. M. Hospital, Parel, Bombay.

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emphasizes the fact that megaloblastic anaemia is not as common as it is thought to be.

Plasma proteins

This was done in all the 75 cases and compared with 75 standard cases. The study showed that 65 out of 75 had plasma proteins less than 6 gm%. Albumin had decreased and globulin had increased in a significant number of cases.

Serum iron levels in 35 cases showed fall below 50 mg.% in 20 cases. Iron binding capacity had increased in all these cases.

Urine and stool examination

Urine revealed asymptomatic bacteriuria in 18, while stool showed presence of worm infestation in 17 cases. Liver and kidney functions were normal.

Dose

This in milligrams was calculated on the basis of formula: $0.3 W (100 - \text{Hb}\%) = \text{Total mgms.}$ where $W = \text{Patient's weight}$ and $\text{Hb}\%$ being patient's present haemoglobin. On an average 1500 to 2000 mgms. were needed depending on the degree of anaemia. Some of the patients needed more than this on the basis of the formula. However, in no case more than 2000 mgms. was given. The rest of the required amount was given orally later on. All these were diagnosed as cases of iron deficiency by bone marrow studies.

Initially 14 to 20 ml. of Imferon were added to a pint of 5% glucose solution and the drip was given for 1 hour at the rate of 20 to 30 drops per minute. This served as a test dose.

If tolerated well, the rest of the solution was given at a rate of 40 drops per minute. However, in 2 cases who got a reaction the whole solution containing Imferon was wasted and hence we adopted the policy of putting in 4 ml. in same bottle to start with and studying the patient for reaction for 1 hour. Totally, 2 pints of 5% glucose were given to infuse 30 to 40 ml. of Imferon.

Forty patients received 32 to 40 ml. of Imferon in one day, while 35 received 20 ml. to 30 ml. of Imferon. Time taken for infusion was 6 to 10 hours. The reason for taking a longer time and giving a more diluted solution than mentioned in the literature was to avoid serious reactions.

Reactions

Totally 12 patients had side reactions out of which 2 were serious and caused anxiety. These two cases developed severe shock and needed noradrenaline drip and other measures for resuscitation. Two patients developed painful swellings of the knee, ankle and elbow joints, while 10 patients had thrombophlebitis at the drip site. Six patients had pyrexia and headache. All of them recovered well and there was no mortality.

Hospital stay

The main purpose of intravenous Imferon drip was to cut down hospital stay. However, the stay was not impressively reduced because of time required for carrying out various investigations before starting the drip, which varied from 3 to 8 days. On an average, the patient stayed 5 to 15 days for the investigations and treatment. The treatment needed only a

day but a few had to stay 10-15 days because of thrombophlebitis or other reactions.

Results

In 3 patients the drip failed, while in 72 cases the response was good. Twenty-nine patients showed an immediate change in colour of the mucous membranes and tongue, while the remaining had a gradual change. Haemoglobin rose within 1 week to 8 weeks time by an average of 2% to 2½% per 100 mgm. of iron. Those who did not respond were retrospectively found to be cases of megaloblastic anaemia. Their bone marrow study indicated preponderance of iron deficiency with hidden megaloblastic erythropoiesis. When iron was administered and bone marrow and peripheral smears were repeated, the picture showed preponderance of megaloblastic erythropoiesis. This point should be kept in mind before giving the drip.

Discussion

Intravenous Imferon drip, vastly acclaimed as a safe and quick method, has its advantages and disadvantages. The outstanding advantage is that the necessary amount of drug was administered in 6 to 12 hours time in-

stead of 10 to 20 days. However, the time, taken, besides administration, is significantly longer because of various laboratory investigations prior to the start of the drip. Two patients in the present series had severe reaction and went into shock necessitating nor-adrenaline drip. Many favourable reports include non-pregnant and pregnant women with milder degrees of anaemia.

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