

TOTAL DOSE IMFERON INFUSION USING THE FIXED VOLUME/TIME TECHNIQUE

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INTRODUCTION

THE PLACE OF total dose imferon infusion (TDI) in the treatment of anaemia in Obstetrics had been established by previous studies. Kuah (1972) had shown the efficacy and safety of TDI in Obstetrics in Malaysia. The above prospective study was undertaken by the author to study the method of fixed volume and time infusion rate for total dose imferon infusion (TDI).

METHODS AND MATERIALS

The above prospective study was carried out in the Department of Obstetrics and Gynaecology General Hospital Malacca from January 1974 to December 1975. The method was as follows:

Patients for the study were selected from the antenatal clinic, antenatal wards and postnatal wards. All relevant data and investigations were recorded in the authors TDI form. The imferon requirement in cc was added to 250 ml of 5% Dextrose. In 1974, 200 ml of 5% Dextrose was used, but in 1975 250 ml of 5% Dextrose was used. All TDI drips were set up by doctors and the patient was observed for 20 minutes. The TDI drip was then allowed to run at a rate so that the drip was completed in two hours. If the patient developed any symptoms the doctor was immediately informed and the symptoms were recorded in the chart.

RESULTS

In this study a total of 125 patients were given TDI. Table I shows that the majority of patients were Malays, 76 out of 125. The table also shows that 49 out of 125 were in parity 6 and above. In this study 76 patients out of 125 had HB less than

Table I

Study population according to ethnicity and parity

Ethnic Group	Primigravida	2 to 5	6 to 9	10	Total
Malays	13	23	28	12	76
Chinese	4	9	7	2	22
Indians	4	13	8	2	27
Total	21	45	33	16	125

8 gms and in the study it was noted HB were low for the rural Malays and the Indians from the estates (Table II). The patients were distributed in all the age groups (Table III). Out of the 125 patients studied, the majority (97) were postnatal most of whom were unbooked cases.

Table IV shows that the majority of patients required between 30 to 40 ml of imferon. Table V shows that TDI can be given easily and with safety with concentration up to 25%. It is of interest to note that the recommended concentration in the Fisson imferon charts is only 5%. In terms of side effects (Table VI) in patients number 2 and 3 the symptoms were recorded after completion of the TDI. The patients were treated and all symptoms cleared. In case 4 and 5 the TDI procedure was stopped at 100 cc and 50 cc. The symptoms cleared up with treatment. No severe side effects were noted. There were no deaths recorded for this study.

Table II
Study population according to ethnicity and haemoglobin level

Ethnic Group	Less than 4	4 to 4.9	5.0 to 5.4	6.0 to 6.9	7.0 to 7.9	8.0 to 8.9	9.0 to 9.9
Malays	1	2	9	21	12	29	2
Chinese	1	0	1	5	4	9	1
Indians	1	0	6	8	5	5	2
Total	3	2	16	34	21	43	5

Table III
Study population by ethnicity and age

Ethnic Group	15 – 20	21 – 25	26 – 30	31 – 35	36 – 40	41+
Malays	8	12	14	21	15	5
Chinese	0	6	5	5	3	3
Indians	3	9	8	3	5	8
Total	11	27	27	29	23	16

Table IV
Imferon requirement according to ethnicity

Imferon in ml	Malays	Chinese	Indians	Total
20	1	0	0	1
25	5	2	1	8
30	19	3	3	25
35	14	6	7	27
40	22	5	5	32
45	9	3	4	16
50	5	3	6	14
55	0	0	1	1
60+	1	0	0	1

Table V
**Percentage strength of total dose imferon infusion
Imferon diluted in 200 ml 5% Dextrose or
250 ml 5% Dextrose**

Imferon in cc	200 ml group		250 ml group	
	Concentration	Percentage	Concentration	Percentage
20	0		1	8% Conc.
25	0		8	10% „
30	9	15%	16	12% „
35	7	17.5%	20	14% „
40	12	20%	20	16% „
45	3	22.5%	13	18% „
50	6	25%	8	20% „
55	0	–	1	22% „
60	0	–	1	24% „

Table VI
Side effects in five patients

No.	Ethnic	Age	Gravida	Hb	Antenatal Postnatal	TDI dilution	Amount Given	Side Effect
1.	Malay	28	3	5.6	Postnatal	35/200	TDI Completed	Fever Headache
2.	Malay	35	6	6.1	Postnatal	50/200	TDI Completed	Giddiness
3.	Indians	27	2	8.2	Antenatal	45/250	TDI Completed	Giddiness
4.	Chinese	32	7	6.5	Postnatal	40/250	100 cc	Headache Giddiness
5.	Indians	25	3	7.2	Postnatal	40/250	50 cc	Rigors

DISCUSSION

The above study shows the efficiency and safety of TDI using the fixed volume time technique. The advantages of the author's technique is as follows:

By using a fixed volume of 5% Dextrose, the duration for the TDI drip is reduced to 2 hours and the volume of TDI used is also reduced to 200 or 250 ml. In a busy antenatal or postnatal ward, it would be easier for doctors and nursing staff to supervise TDI

drips as the drips will only last for 2 hours. It is reassuring to a patient to know that the drip will only be for 2 hours and the TDI procedure is more acceptable to the patient. The Obstetric and Medical advantage is that there is no risk of overloading the blood volume.

REFERENCE

Kuah, K.B. (1972). Total dose infusion of Imferon in Obstetrics, *Med. J. Malaysia* **26**, 186-193.