

SECOND TRIMESTER ABORTION WITH INTRAMUSCULAR
15-METHYL PG F₂ ALPHA

(A Randomized Study)

by

R. MANJULA,* M.B.,B.S.

P. N. KANTHAMANI,** M.D., D.G.O.

G. SHAKUNTALA,*** M.D., D.G.O.

and

R. VIJAYA,† M.D., D.G.O., F.I.C.S.

This study was designed to find out the safety and efficacy of intramuscular injections of 15-Methyl PG F₂ alpha (carboprost tromethamine marketed as Prostin-15 M), as this is a less invasive method than intra amniotic or extra amniotic injections of prostaglandin and can be easily administered.

Material and Methods

Patients seeking abortion between 14-20 weeks pregnancy in the family welfare department of Government Raja Mirasdar Hospital attached to Thanjavur Medical College, were taken up for this study. Patients with history of asthma and cases who were anaemic or having a cardiac lesion or hypertension were rejected. A medical officer was specially deputed to carry out this trial who was available night and day in the labour rooms to have a complete and perfect data collection.

Fifty serially numbered sealed covers,

*Senior House Surgeon.

**Additional Professor.

***Associate Professor and Post-partum Officer.

†Professor and Head of the Department of Obstetrics and Gynaecology, Thanjavur Medical College.

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containing instructions as 2 hourly or 3 hourly were prepared based on random table charts and the patients were put on 2 hourly or 3 hourly schedule of intramuscular Prostin 15-M depending on the instruction in the cover opened. The height of uterus was measured from the symphysis pubis to the fundus and also clinically assessed. The time taken from the first injection to the expulsion of the products (Induction-abortion interval), total quantity of the drug used and whether the products were completely expelled or not, blood loss and side effects, pulse and B.P., were noted. If placenta was expelled out alongwith the foetus, it was taken as complete expulsion and if the placenta was lying in the vagina or cervical canal, it was taken as incomplete and if it was completely inside the uterine cavity requiring manual removal, it was considered as retained placenta. To reduce the incidence of side effects like diarrhoea and vomiting every patient was given 1 tablet of antiemetic and antidiarrhoeal drug which was repeated every 8 hours and 150 mgs. of doxy-cycline was given every day for 5 days. Each M1 of Prostin-15 M contained 250 mg of 15 Methyl-Prostaglandin F₂ alpha. The induction-abortion time has been corrected to the

nearest hour for the sake of convenience. When 10 ml or 2500 μ g did not show any cervical effacement or dilatation, the case was considered as failure and other methods were resorted to.

Results

Fifty cases were registered for this trial and there were 7 unwed primigravidae

and the remaining 43 cases were married multiparous women. The lowest age was 17 and highest 35 years.

The number of patients in each group, parity, weeks of gestation, quantity of drug used, induction-abortion interval, incomplete expulsions, retained placentae are all shown in Tables I and II.

TABLE I
Individual Case Data 2 Hourly Group

Serial number	Weeks of gestation	Quantity of drug used (ml)	Complete or incomplete	Induction-abortion interval		Average time taken Hours
				Hrs.	Mts.	
NULLIPARAE						
1.	14	12	I.C.	21	25	
2.	16	10	I.C.	18	00	
3.	18	10	C.	18	15	18.2
4.	20	7	C.	14	50	
5.	20	11	C.	19	20	
MULTIPARAE						
1.	14	4	I.C.	7	05	
2.	14	9	I.C.	16	35	
3.	14	6	C.	10	00	15.74
4.	14	17	R.P.	34	30	
5.	14	6	C.	10	55	
6.	16	4	I.C.	7	00	
7.	16	10	C.	17	40	
8.	16	5	C.	9	20	13.57
9.	16	10	R.P.	21	20	
10.	16	7	C.	13	05	
11.	18	8	C.	15	20	
12.	18	5	C.	7	55	11.70
13.	18	7	C.	12	45	
14.	20	11	C.	20	15	
15.	20	8	I.C.	14	25	
16.	20	12	R.P.	23	15	
17.	20	8	C.	14	15	16.95
18.	20	14	C.	27	05	
19.	20	6	C.	9	35	
20.	20	6	C.	10	55	
25 Cases						
Total Average Time			Nulliparae			18.2 hrs
			Multiparae			14.3 hrs

C — Complete I.C. — Incomplete R.P. — Retained Placenta.

TABLE II
Individual Case Data 3 Hourly Group

Serial number	Weeks of gestation	Quantity of drug used (Ml)	Complete or incomplete	Induction—abortion interval		Average time taken Hours
				Hrs.	Mts.	
<i>NULLIPARAE</i>						
1.	14	9	C.	25	10	26.20
2.	20	10	Failure	27	30	
<i>MULTIPARAE</i>						
1.	14	4	I.C.	9	45	13.00
2.	14	4	I.C.	9	30	
3.	14	5	I.C.	14	00	
4.	14	10	I.C.	29	55	
5.	14	4	C.	9	10	
6.	14	5	C.	14	50	
7.	14	3	C.	5	00	
8.	16	5	I.C.	13	00	14.02
9.	16	10	Failure	36	40	
10.	16	4	I.C.	9	35	
11.	16	6	R.P.	16	40	
12.	16	5	I.C.	12	00	
13.	16	5	C.	11	40	
14.	16	8	I.C.	22	00	
15.	18	5	I.C.	12	05	10.37
16.	18	4	I.C.	9	15	
17.	18	5	C.	12	15	
18.	18	4	C.	8	15	
19.	20	7	I.C.	18	30	15.62
20.	20	12	C.	23	15	
21.	20	5	C.	13	45	
22.	20	5	I.C.	15	20	
23.	20	3	C.	8	00	
25 Cases						
Total Average Time			Nulliparae		26.2 hrs	
			Multiparae		13.3 hrs	

C — Complete I.C. — Incomplete R.P. — Retained Placenta.

Rarity and Induction-abortion Interval

In the 2 hourly group (Table I), there were 5 unwed nulliparae and in them the lowest induction-abortion interval was 15 hours in a 20 weeks pregnancy and she

expelled completely after getting 7 Ml of Prostin 15 M. The maximum duration was 21 hours in a 14 weeks pregnancy after 12 Ml of Prostin 15 M and the average time in nulliparae was 18 hours. In 3 cases, both foetus and placenta were

expelled completely and in the other 2, it was lying in the vagina and was removed easily.

In the 20 multiparae, 5 were 14 weeks, 5 were 16 weeks, 3 were 18 weeks and 7 cases were 20 weeks. On the whole, the lowest induction-abortion interval in mults was 7 hours, which occurred in 2 cases (14 weeks and 16 weeks) and the maximum of 34½ hours, also occurred in the 14 weeks' group. Average induction-abortion interval in multi was 14.32 hours. In 13 cases, the products were completely expelled, in 4 cases, placenta was lying in the vagina and in the remaining 3, the placenta was retained and had to be manually removed. All the 3 manual removal cases had a fairly long induction-delivery interval of 34½ hours, 21 hours and 23 hours, who had received 17 M1, 10 M1 and 12 M1 of Prostin-15 M respectively.

Duration of Pregnancy and Induction-abortion Interval

In the nulliparous group, there were only 5 cases and hence no meaningful conclusions can be drawn. In mults, the average duration for 14, 16, 18 and 20 weeks are 16, 14, 12 and 17 hours respectively.

Table II shows the individual case data of the 3 hourly injection group. There were only 2 primis, one 14 weeks and the other 20 weeks. The first case had an induction-abortion interval of 25 hours and the second one with 20 weeks was a case of failure, as, after 10 M1 of Prostin 15 M and an interval of nearly 28 hours, there was no effacement or dilatation of the cervix. Hence the trial was abandoned.

There were 23 multiparae with an average induction-abortion interval of 13.3 hours and this is almost same as the 2 hourly group. The lowest was 5 hours

and highest was 30 hours. There were 7 cases each in 14 weeks and 16 weeks, 4 in 18 weeks and 5 cases in 20 weeks group and the average induction-abortion interval was 13, 14, 10 and 15 hours respectively. In 8 cases, the products were completely expelled, in 12, placenta lying in the vagina was removed and in 1 case, placenta was retained in the uterms. There was 1 failure in the 16 weeks group after 10 M1 Prostin and nearly 36½ hours of waiting.

Complications

Vomiting occurred once or twice in the first few cases and later it was rarely encountered because of the routine use of antiemetic drug. But there was diarrhoea in all cases, a minimum of 2 times in the majority, to, a maximum of 9 times in 2 cases, with an average of 4 times. The patients accepted this because they were informed about this before starting the induction.

Blood Loss

Maximum blood loss was 400 M1 in a case of multipara with retained placenta in the 3 hourly group and minimum 60 M1 with an average blood loss of 104.4 M1.

Conclusion

The following observations were made in this study.

1. The average induction-abortion interval in a primi is 19½ hours and 14 hours in a multi.
2. The failure was 2 out of 50 cases, i.e., 4%.
3. The placenta was retained in 8% of cases.
4. There was no significant difference in the overall induction-abortion interval between the 2 hourly and 3 hourly sche-

dules, i.e., 14.3 and 13.3 hours, respectively.

There was also no significant difference in the 2 schedules at different periods of gestations.

5. 92.5% of patients expelled the products within 24 hours and the remaining 7.5% did so after 24, but within 36, hours. This is a reasonably acceptable figure of successful induction.

6. With the prophylactic dose of antibiotics, anti-emetics and antidiarrhoeal agents, vomiting was negligible but loose stools occurred (average of 4 times) as a rule, in all cases. There was no problem

of infection except in 1 case and also there were no serious complications due to the drug in this series.

Our final impression is, intramuscular 15-Methyl Prostaglandin F₂ Alpha can be safely used for inducing second trimester abortions with a careful choice of cases and the abortion can be expected to be completed within 24 hours.

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