

## COMPARISON OF PGE<sub>2</sub> AND PGF<sub>2</sub> IN SECOND TRIMESTER ABORTIONS

PREETI DUBAY ● V.K. SINGH ● I.J.K. SONI ● SEEMA GUPTA ● R.S. MISRA

### SUMMARY

In a comparative study of I-A interval, in 70 patients, (35 patients were given PGE<sub>2</sub> for induction of abortion and 35 patients who were given PGF<sub>2</sub> (alpha) it was found that in PGE<sub>2</sub> group I-A interval was 15.85 hours, while in PGF<sub>2</sub> (alpha) it was 11.67 & the difference was statistically significant (P<0.05). The success rate with PGE<sub>2</sub> was 80% while that with PGF<sub>2</sub> (alpha) was 88.57% and the difference was not significant (P>0.05). The completion rate with PGE<sub>2</sub> was 78.57% & with PGF<sub>2</sub> (alpha) was 87.09%.

### INTRODUCTION

Abortion has earned much popularity in the last decade because of its greater safety and large impact on population control. Surgical abortion through the vagina by dilating the cervix with graduated Hegar dilators and removing the products of conception by curettage is associated with serious complications like haemorrhage, sepsis and perforation. Thus a method of termination of pregnancy which does not require instrumentation of the uterine

cavity would avoid many of these complications. The aims of the present study is to evaluate the efficacy and safety following induction of second trimester abortions by PGE<sub>2</sub> or PGF<sub>2</sub> (alpha).

### MATERIAL AND METHODS

A total 70 patients were studied in both groups, half of which were given PGE<sub>2</sub> and half of the patients were given PGF<sub>2</sub> (alpha). The present study was conducted in the Department of Gynaecology & Obstetrics, UISEMH Kanpur from September 1993 to September 1994. The patients in both the groups were well matched

*Dept. of Gynae. & Obs., G.S.V.M. Medical College, Kanpur.*

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in terms of age, period of gestation, parity & educational status. A detailed history was taken and a complete examination was done. Patients who had contra-indications to prostaglandin therapy were excluded from the above study. In the first group, patients were induced for termination by instillation of PGE<sub>2</sub> endocervically under aseptic precautions. The drug is supplied by the name of "Cerviprime", which is a translucent gel, containing 0.5mg of dinoprostone (PGE<sub>2</sub>) per 3.0 gm. Subsequent doses were given at 6 hourly intervals, depending on uterine contraction. The injections were continued till the products were expelled or till 3 mg of the drug was administered.

In the second group, half of the patients were given PGE<sub>2</sub> intramuscularly. The drug is supplied by the name of "PROSTODIN" and each ml. contains 250 mg of Carboprost tromethamine. A test

dose of 125 ug was given by 1/M route and the patient watched for 1 hour for side-effects. Subsequent doses were given at 1-2 hours interval depending on uterine contractions or till 5 mg of the drug was injected.

In both the groups Tab Lomotil, Tab Perinorm & Tab Calpol were given as or when required.

Any case in the above two groups was considered as FAILURE if the patient did not abort within 30 hours.

The procedure was labelled as INCOMPLETE if the patient failed to expel the placenta within 1 hour of the delivery of the foetus.

**OBSERVATIONS & DISCUSSION**

In our study, the mean I-A interval (Table I) in cases in which PGF<sub>2</sub> was used was 15.85 hours and with PGF<sub>2</sub> (alpha)

**Table I**  
Showing induction - abortion interval in cases belonging to second trimester

Time in Hrs.	Cases with PGE <sub>2</sub>	%	Cases with PGF <sub>2</sub> (alpha)	%
0-4	0	0	0	0
4-8	0	0	3	9.67
8-12	3	10.71	15	48.38
12-16	13	46.72	11	35.48
16-20	9	32.14	1	3.22
20-24	2	7.14	1	3.22
24-28	1	3.42	0	0
Mean	28/35	100	31/35	
S.D.	± 3.62		± 3.33	
't' test	4.64			
P	< 0.001	(Non-significant)		



**Table II**  
showing relation of gestational age with I-A interval

I-A Interval	Cases with PGE <sub>2</sub>		Cases with PGF <sub>2</sub> (alpha)	
	13-15 Weeks (Group IIA)	16-19 Weeks (Group IIB)	13-15 Weeks (Group IIC)	16-19 Weeks (Group IID)
0-4	0	0	0	0
4-8	0	0	3	0
8-12	0	3	9	6
12-16	3	10	2	0
16-20	5	4	1	0
20-24	2	0	0	1
24-26	1	0	0	0
Mean	18.36	14.23	10.26	13.00
S.D.	+ 3.59	+ 2.55	+ 3.08	+ 3.00
<b>Comparison between :</b>				
	Group II & Group IIB		Group IIC & Group IID	
't' test	2.80		2.51	
P	<0.05 (Significant)		<0.05 (Significant)	

was 11.67 hours & the difference was statistically significant ( $P < 0.05$ ). This is in accordance to that of Surrago, Joel, Robins (1982) who have reported I-A interval of 13.0 hours following intravaginal administration of PGE<sub>2</sub>.

Similarly Lauerseon et al (1975) have reported I-A interval following 1/M injections of PGF<sub>2</sub> (alpha) to be 15.98+8.04 hours. The I-A in cases with gestational age between 13-15 weeks by PGE<sub>2</sub> was 18.36 hours while in the group between 16-19 weeks was 14.23 hours & the difference was significant ( $P < 0.05$ ) (Table II). This is in accordance to that of Surrago, et al (1982) who have reported shorter I-A interval in 16-19 weeks gestational age as compared

to 13 weeks & was significant (13.1 hours Vs 18.5 hours, ( $P < 0.01$ ).

In PGF<sub>2</sub> (alpha) (Table II), I-A interval in the gestational age group 13-15 weeks (Group IIC) was 10.26 hours and in 16-19 weeks (Group IID) was 13 hours & the difference was significant ( $P < 0.05$ ). This is in accordance to that of Lauerseon et al (1975) who showed that patients with gestational age (13-15 weeks) aborted faster as compared to advanced gestation (16-19 weeks). The success rate (Table III) following PGE<sub>2</sub> instillation was 80% which is in accordance to that of Surrago et al (1982) who also reported 84% success rate while in PGF<sub>2</sub> alpha group it was 88.57% but the difference

Table III  
Showing success rate

	Case in which PGE <sub>2</sub>	%	Cases in which PGF <sub>2</sub> alpha was used	%
Success	28	80	31	88.57
Failure	7	20	4	11.43
Total	35	100	35	100

$X^2 = 2.99$   
P > 0.05 (Non-significant)

Table IV  
Showing completion rate

	Case in which PGE <sub>2</sub> was used	%	Case in which PGF <sub>2</sub> alpha was used	%
Complete	22	78.57	27	87.09
Incomplete	6	21.43	4	12.91

$X^2 = 0.82$   
P > 0.05 (Non-significant)

was non-significant (P>0.05).

The completion rate (table IV) following PGE<sub>2</sub> was 78.57% while in PGF<sub>2</sub>alpha it was 87.09% but the difference was non-significant. (P>0.05)

#### CONCLUSION

It can be seen that Prostaglandins are effective & quite safe in the induction of

second trimester abortions and PGF<sub>2</sub>(alpha) are quite effective in this context.

#### REFERENCES

1. Lauersen N.H., Sechar N.J., Wilson K.M.: *Obstet. & Gynec.* 121, 273, 1975.
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