

A COMPARATIVE STUDY OF INDUCTION OF LABOUR WITH OXYTOCIN AND 15(S)15 METHYL PGF₂ ALPHA TROMETHAMINE SALT

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SUMMARY

The effect of PGF₂ Alpha analogue (carboprost) through intramuscular route for inducing labour has been studied in 60 women at or near term, while I.V. oxytocin was used in 30 patients for the same. The over all success rate with carboprost is 100% while with oxytocin it is 96.7%. Regular uterine contractions were recorded in 27 min. in primigravida and 22 min. in multigravida with carboprost series. The superiority of prostaglandins in rapidity of response in comparison to I.V. oxytocin was established. In properly selected cases with constant supervision the drug has a proven place in induction and augmentation of labour. The only disadvantage is if patient develops foetal distress, immediate withdrawal is not possible.

INTRODUCTION

History reveals an understandable reluctance to interfere with the course of labour by hastening its onset, partly because the methods were uncertain, bizarre and often dangerous. The penalties of failure and the hazards of delayed labour have been recognised for centuries and have influenced thinking in obstetrics right upto

the present I/V oxytocin was the method of choice for induction of labour till recent times but the current popularity of PG therapy in the field of obstetrics is understandable as the various pharmacological actions of these agents make them potentially valuable therapeutic agents. In the present study the effect of PGF₂ alpha by intramuscular route was studied for induction of labour and the comparative evaluation of this drug with IV. oxytocin was carried out.

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MATERIAL AND METHODS

A total of 110 patients were selected from labour rooms and antenatal clinics, Dept. of Obst. & Gynaec, G. S. V. M. Medical College, Kanpur. Out of 110 patients, 20 patients underwent spontaneous labour, 60 were induced by PGF₂ alpha and 30 by I.V. oxytocin. Besides the indication certain other criteria like parity, period of gestation, cervical dilatation, inducibility score, presentation and absence of any contraindication for induction were taken into consideration. Patients in oxytocin group were given oxytocin drip with 0.5 units in 5% Dextrose solution in 500 ml. After sensitivity dose, the drip rate of 15 D/min. was increased upto 2.5 units till the normotonic contraction as judged clinically were established at the rate of 3 ut. contraction/10 min. and the total dose of oxytocin used was noted. In the prostaglandin group the sensitivity dose of 0.1 ml. (25 ug) was given followed by the doses of 0.3-0.4 ml. (50-100 ug) at 1-2 hr. interval, depending upon the patients

response till delivery and duration of labour was watched.

OBSERVATION

Table I shows indications for induction of labour.

Table II - shows comparison of average duration of labour according to parity in oxytocin and PGF₂alpha groups.

Table - III : shows average duration of labour according to period of gestation in oxytocin and PGF₂alpha group.

Table IV - shows duration of labour according to Bishop's scoring.

Table V - shows total amount of drug used in PGF₂ alpha group.

DISCUSSION

In our study none of the patients had any serious complication. We found the average duration of labour in primigravida was shorter with PGF₂ alfa as compared to I.V. oxytocin (Table II). The difference was statistically significant (P<0.05). Same results are also given by Gupta et al (1984)

Table I

Indication	No. of cases	
	I.V. Oxytocin	I.M. PGF ₂ alpha
Post maturity	2	24
Premature rupture of membranes	5	9
Hypotonic ut.	12	4
I.U.D.	1	18
P.E.T. LC	10	3
Congenital anomalies	-	2

Table II

Parity	Oxytocin group		PGF ₂ alpha group	
	No. of Patients	Av. duration of labour	No. of patients	Av. duration of labour
P ₀ +0	11	9.52	35	8.55
P ₁ +0	9	8.02	12	6.37
P ₂ +0	6	7.12	8	6.37
P ₃ +0	3	6.20	4	4.37
P ₄ +0	1	4.25	1	3.50

Table III

Gestational age (in weeks)	Oxytocin group		PGF ₂ alpha group	
	No. of patients.	Av. duration of labour (in hrs. & Min.)	No. of patients.	Av. duration of labour (in hrs. & Min.)
28-34	5	8.45	4	6.58
35-40	23	7.53	32	6.43
41.44	2	11.22	24	7.40

and Helson and Bryan (1976). We found PGF₂ alpha to be more effective in multigravida also. Success rate was 100% with PGF₂ alpha series and with oxytocin it was 96.7%. Mehra S. et al. (1986) also found better results with PGF₂ alpha series. With inducibility score of 8 & 9, duration of labour and success rate were almost

equal with both the series (Table IV) But with inducibility score of 6 & 7 PGF₂ alpha was found to be more effective and the difference between the two was statistically significant (P<0.05). The average duration of labour was shorter with PGF₂ alpha than with oxytocin in patients with period of gestation 28-34 weeks and 41-

Table III

Bishop's Score	Oxytocin group		PGF ₂ alpha group	
	No. of patients	Av. duration of labour (in hr. & Min.)	No. of Patients	Av. duration of labour* (in hr. & Min.)
6	3	12.55	12	10.55
7	9	7.55	11	10.03
8	14	7.36	24	6.49
9	4	5.45	13	4.51

Table V

Amount of drug used (in ml.)	Dose in ugm.	Parity	
		Primigravida	Multigravida
0.2-0.6	50-100	2	18
0.7-1.0	175-250	12	4
1.1-1.5	275-375	10	3
1.6-1.9	400-475	2	-
2.0-2.4	500-600	1	-

44 weeks. This difference was also statistically significant ($P < 0.05$) Karim et al (1972) also found PGF₂ alpha to be more effective in near term patients.

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