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Induction and Augmentation of Labour by Intracervical and/or Intravaginal PGE_2 Tablet (Primiprost)

Dilip S. Kamat, Vaiju D. Kamat, A. A. Mulary, MA. A. Kharat, E.V. Thomas

Department of Obstetrics, Gynaecology & F.W., B.J. Medical College and Sassoon General Hospitals and Yeshwantro Chawan Memorial Hospital, Pune, Maharashtra

Summary

Local application of PGE_2 is known to cause dramatic biochemical and morphological changes in the cervix. Ferguson et al 1988 claimed a marked cervical softening following PGE_2 instillation intracervically. Lamont et al 1991 showed that PGE_2 gel has positive beneficial effect on cervical compliance during the pre-established phase of labour.

The aim of the present study is to see the effect of PGE_2 tablet in induction of labour in favourable cervix (Bishop Score >5). The present study was conducted in 335 patients from January to September 1998 at Pune.

The study concluded that PGE_2 tablet intracervically or intravaginally play a significant role in induction of labour with minimal side effect and comparatively at low cost.

Introduction

Local application of PGE_2 is known to cause dramatic biochemical and morphological changes in the cervix. Ferguson et al 1988 claimed a marked cervical softening following PGE_2 instillation intracervically. Lemont et al 1991 showed that PGE_2 gel has positive beneficial effect on cervical compliance during the pre-established phase of labour.

The aim of the present study is to see the effect of PGE_2 tablet in induction of labour in favourable cervix (Bishops Score >5).

Material and Method

The present study was conducted in 335 patients attending Kamat Hospital, Pune Y.C.M. Hospital, Pune and Sassoon General Hospital, Pune from January to September 1998.

Detailed history was taken, clinical examination done and Bishop's score was done by vaginal examination.

The cases selected for primiprost insertion were between 36-41 weeks with intact membrane, singleton vertex presentation, lack of regular contractions, adequate pelvis, and absence of CPD. Patients with LSCS scar, history of Asthma, Glaucoma, preexisting fetal distress, bleeding per vagina were excluded for PGE_2 tablet insertion.

Maternal biochemical, haematological profile and foetal profile for foetal well being was ascertained by USG and CFM.

The cases were divided into 2 groups-

a) Intracervical (180) PGE_2 tablet (ICPP)
b) Intravaginal (155) PGE_2 tablet (IVPP)

PGE_2 tablet Dinoprostone (0.5 ug) available as Primiprost Tab., Astra IDL was inserted or rubbed in cervical canal where cervix was admitting 1 finger. In remaining cases PGE_2 tablet was inserted in posterior fornix intravaginally. Patient was kept NBM in Trendelenberg's position for 1 hour.

Maternal vitals, foetal heart rate and uterine contractions were monitored half hourly for 4 hours. The cervical state was reassessed after 4 hours and depending upon the response 1 tab was reinserted ICPP or IVPP.

The cases were augmented by IVPP every 4 hourly whenever required. The neonatal outcome was assessed by the standard Apgar Score.

Result

Majority of patients belonged to age group of 20 to 30 years.

Table – I
Distribution of Cases

Mode of Induction	No.	Percentage
ICPP	180	53.73
IVPP	155	46.26
Total	335	99.99

Table II
Indication for Induction

Indiction	No.	Percentage
Selective Induction	164	48.93
Postdated	60	17.91
PET	80	23.88
B.O.H.	18	5.37
Foetal anomalies	9	2.68
IUD	4	1.19

178 (53.3%) patients were primigravida and 157 (46.86% were between 2nd to 4th gravida. Indication for induction was cases with confirmed maturity > 38 wks have shown favourable response with ICPP and IVPP.

Table – III
Mode of Delivery by ICPP (A)

Mode of Delivery	No.	Percentage
Vaginal	134	74.44
Augmentation with IVPP	46	25.55
LSCS	18	10.00
Forceps	9	5.00

The augmentation of labour with IVPP was encouraging – 10% of group A and 12.9% of group B underwent LSCS for nonprogress of labour or early fetal distress (Table III and IV). So also 5% and 7% of cases for group A and B needed forceps extraction.

Table – IV
Mode of Delivery By IVPP (B)

Mode of Delivery	No.	Percentage
Vaginal	112	72.2
Augmentation with IVPP	43	27.74
LSCS	20	12.90
Forceps	11	7.09

Table – V
Induction Delivery Interval

ICPP	PRIMI	14 HR 30 MIN
	MULTI	8 HR 40 MIN
IVPP	PRIMI	16 HR 34 MIN
	MULTI	10 HR 45 MIN

Induction delivery interval was longer in primigravida as compared to multigravida. Induction delivery interval was 14 hour 30 min in group A and 16 hour 34 min in group B for primi and 8 hour 30 min in Group A and 10 hour 45 min in group B for multiparous patient.

Side effects like nausea, vomiting and loose motions were not observed in any case. 4 patients had vigorous uterine contraction following ICPP probably due to higher sensitivity of PGE_2.

Discussion

PGE_2 inserted intracervical or intravaginally has responded favourably and successfully in 74.4% and 72.25%. No augmentation was required in these cases.

Further augmentation in both groups was effective and only 10% and 12.9% cases needed caesarean section for Group A and Group B respectively.

The induction delivery interval was less if cervical score was more than 6. This finding was supported by Mohmood et al 1992. Uldjerg et al 1981 noted 20% increase in the concentration of sulphated glycosaminoglycase which is responsible for successful induction.

Conclusion

The study concluded that the PGE_2 tablet intracervically or intravaginally, played a significant role in induction of labour with minimal side effects and comparatively at low cost.

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