Extra-Amniotic Instillation of Tablet Dinoprostone (PGE_2) with Ethacridine Lactate for Termination of Second Trimester Pregnancy

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Summary: Two hundred cases of second trimester pregnancy termination were studied. Out of these in 100 cases ethacridine lactate with pitocin (10 units) was instilled into the extra amniotic space. In the remaining 100 cases dinoprostone tablet 0.5 mg (PGE_2) crushed and mixed with ethacridine lactate was instilled extraamniotically. It was observed that by the addition of dinoprostone, the instillation-abortion interval was reduced to less than 48 hrs. in 94% of the patients, 91% of the patients aborted completely, and only 18% required oxytocin supplementation.

Introduction

A number of modalities and methods are available for induction of abortions in the second trimester. All these however have shortcomings. A safe and effective method therefore needs to be evolved more so in India, where even 25 years after legalising abortion, almost 15 – 20% of women seeking medical termination of pregnancy, present for second trimester termination.

Of the various methods available, extra amniotic ethacridine lactate is a well accepted method for second trimester termination of pregnancy. This is due to its oxytoxic action and its high safety index (Fylling P. et al 1973). It is however not devoid of drawbacks like having a high failure rate and a prolonged induction abortion interval. Whereas when pitocin was added to ethacridine lactate, the instillation – abortion interval was reduced. (Nayak A. H. et al 1989).

Prostaglandins on the oother hand have a strong oxytocic action and therefore an expected shorter induction – abortion interval and a good success potential (Rajan and Usha, 1979, Allahbadia, 1992 and Yadav et al 1993). Prostaglandins have been used widely as abortifacients, by various routes. But at the same time the high incidence of uterine rupture, cervicovaginal injuries, gastrointestinal, disturbances, bronchospasm and high cost have to be borne in mind with the use of prostaglandins (Kanjanoja P. 1983, Cameron I. T. et al, 1987).

Material and Methods

The present study was undertaken at the Nowrosjee Wadia Maternity Hospital between 1st June 1997 to 31st December 1997 as a prospective randomised trial. A Total of two hundred patients were selected for this study. A. informed consent was obtained. Patients with past history of hypertension, previous uterine surgery, cardiac or renal disease and bronchial asthama were excluded from the study. All these patients were undergoing second trimester termination of pregnancy and had uterine size ranging from 14 – 20 weeks. A general physical examination along with routine laboratory tests of haemoglobin estimation, urine analysis and blood group determination was undertaken.

These 200 patients were divided into 2 groups: -

Group A – Ethacridine lactate plus Pitocin (10 units) – 100 pts.

Group B – Ethacridine lactate plus by Dinoprostonee (PGE_2 0.5mg) – 100 pts.

In all these patients, the catheter was removed after 6 hrs. and an antibiotic cover of oral amoxyciline 500mg every 6 hours was given for 5days. Results obtained in both groups were compared with respect to instillation – abortion interval, need for further oxytocin supplementation, type of abortion, failure and complications if any.

Results

In the present study of 200 patients, 47 were primigravidae and 150 were multigravidae. The patient's age varied from 16 to 39 years with the mean age of 25 years. Gestational age ranged from 14 to 20 weeks, with the mean gestational age of 16 weeks in both groups (Table I)

Table I

Distribution of age, Parity and gestational age		Ethacridine + Pitocin	Ethacridine + Dinoprostone
Number	100	100	
Age (years):	Mean	25	25
	Range	16 – 34 yrs	18 – 39 yrs
Parity:	Primi	25	32
	Multi	75	78
Gestational:	Mean	16	16
age (weeks)	Range	14 – 20	14 – 20

The average instillation – abortion interval in group B was 12 hrs. Whereas in group A, it was as high as 41 hrs. The instillation – abortion interval was less than 24 hrs. in 80% of cases and 94% of the patients aborted within 48 hrs, in the group B. In controlled group A only 50 % of the patients absorbed within 48 hrs (Table II).

Table II

Instillation – Abortion Interval	Group A No.	Group B No.
< 24 hrs.	21	84
24 – 48 hrs.	29	10
> 48 hrs.	50	6
Total	100	100

In group B 92% of the patients aborted completely as compared to, only 30% of the patients in a group A (Table III).

Table III

Completeness of Abortion	Group A No.	Group B No.
Complete	30	92
Incomplete	70	8
Total	100	100

Oxytocin supplementation was started either for initiation of uterine activity or for expulsion of placenta. In group B only 18 % required oxytocin supplementation as compared to 74% in group A. (Table IV).

Table IV

Need for Oxytocin Drip	Group A No.	Group B No.
Required	74	18
Not Required	26	82
Total	100	100

There was a single case of failure in group B. While in group A, procedure failed in 10% of the patients.

In group B 6% had moderate to severe abdominal pain immediately after instillation but responded very well to analgesics. In group A 4% of the patient had excessive bleeding, but it did not require any blood transfusion.

Discussion

Ethacridine scores over all other methods in terms of its safety. This has been proved by the extensive use of ethacridine in many countries without a single death attributed to the use of ethacridine. Ethacridine when used alone has a prolonged induction-abortion interval and increased incidence of failure.

Prostaglandins when used alone have a few drawbacks like risks of uterine rupture, cervicovaginal injuries and vaginal lacerations. It is postulated that these injuries were secondary to the increase in myometrial activity and hypertonus produced by prostaglandins in the presence of an undilated rigid closed cervix and the attempt to expulsion of products of conception forcefully through a closed cervix. When only intramuscular injections of prostaglandins are used, anywhere between 3-12 injections at 3 hrly intervals are required causing distressing side effects of diarhoea, vomiting thus increasing the anxiety of patients (Karim S. M. et al, 1970).

Ethacridine when used in combination with prostaglandin causes cervical ripening, softening and dilatation. This may be related to the endogenous releases of prostaglandins from the deciduas, the dilatory effect of the Foley's balloon, the sensitization of the myometrium to prostaglandin in presence of ethacridine and the synergestic effect of extraamniotic prostaglandin with the endogeneous prostaglandin released by ethacridine. The addition of prostaglandin in extra-amniotic space has shown to be a valuable alternative to other method of inducing midtrimester abortion (Bygdeman M., 1980).

With intramuscular injections of prostaglandin F_2 alpha for termination of pregnancy the instillation – abortion interval was 15hrs 30min. But patients had to be given repeated intramuscular injections and they had marked gastrointestinal side effects (Lauerson N. H et al, 1975). Similarly, by using intravaginal prostaglandin E_2,

instillation-abortion interval was of 13 hrs. was reported by Suriago et al (1982)[7], but the cost of the cerviprime gel is much higher than dinoprostone tablet. The result of our study are comparable with those of Nayak et al, (1996). Hence, we conclude that the new technique helps in reducing the incidence of gastrointestinal side effects and cervicovaginal injuries. It also shortens the induction abortion interval and improves overall cost effectiveness and patient acceptability of the procedure and markedly reduces hospital stay.

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