

CERVICAL PRIMING WITH INTRAUTERINE PLAIN RUBBER CATHETER PRIOR TO SUCTION EVACUATION

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SUMMARY

The present study is a clinical trial on 75 patients in whom intrauterine plain rubber catheter was used for cervical ripening prior to suction evacuation. Cervical dilatation became extremely easy within 12 to 24 hours after catheter insertion. The number of catheters required depended upon the period of gestation. The period of hospital stay was very short, 1/2 hour at the time of insertion and 4-6 hours at the time of evacuation. No serious complication occurred in the series.

Introduction

Extraovular introduction of plain rubber catheter has gained a wide popularity for inducing midtrimester abortion. Its efficacy has been proved beyond doubt by different investigators (George, 1978; Tandon *et al*, 1979, and Mishra and the 1981). However, no work has been done upto now to evaluate its role in ripening of the cervix.

There is a critical period between 10 to 16 weeks in nulliparae and 12 to 16 weeks in multiparae when suction evacuation is extremely difficult as well as attended with serious risks of cervical tear and uterine perforation. At such stage the uterus is not large enough for easy administration of intraamniotic solution for inducing abortion. Every now and then a surgeon realises the need for a method which could ripen the cervix at this time so that evaluation could become more safe and easy.

Acceptable methods for this purpose at present are Prostaglandins and laminaria tents. Prostaglandins are too costly for common use. Besides that, its use is almost always attended with undesirable and unpleasant side-effects e.g. diarrhoea, vomiting, bronchospasm etc. Laminaria tents cause infection is quite a large number of cases as well as its introduction is painful, difficult and attended with risk of injury to cervix and lower uterine segment. Considering these difficulties extra-amniotic introduction of plain rubber catheter was tried for ripening the cervix during these periods. Rubber is an inert substance and devoid of any systemic complication which are so common with prostaglandins. Being soft and atraumatic it can not damage cervix or lower uterine segment which is a drawback with laminaria tents.

Materials and Methods

Seventy-five cases were studied who demanded termination of pregnancy on

genuine grounds between 10 to 16 weeks of gestation.

After taking detailed clinical history a thorough examination of each patient was done and routine clinical investigations were carried out. In suitable cases one dose of tetanus toxoid was given at the first visit. Prophylactic antibiotic in the form of Cephalixin 250 mg. 6 hourly orally with Metronidazole 400 mg. 8 hourly orally was started 24 hours before the catheter insertion.

Procedure: The patient was put in lithotomy position. With all aseptic and antiseptic precautions. Sim's speculum was applied. Anterior lip of the cervix was caught with long Ellis's forceps. Sterilized (autoclaved) plain rubber catheter was introduced gently inside the uterus in the direction in which it went easily. 1 to 3 catheters were used depending upon the period of gestation. To minimise the risk of infection it was ensured that the end of the last catheter had reached above the internal os and was not hanging in the vagina or cervical canal. The vagina was then irrigated with Betadine solution and sterile pad applied.

The patients were sent home, if they desired and asked to report back after 12 hours or immediately if pain or bleeding started. Vaginal examination was done at the second visit (12 hours after catheter insertion) with full aseptic and antiseptic precautions to see whether the cervix has ripened or not. Cervix was considered ripe if there was mucoid discharge, shortening of cervical length and external os admitted finger tip in nulliparae. If the cervix was ripe, evacuation was done under intravenous Calmose and Epontol. In cases with unripe cervix, re-examination was done after another 12 hours when it was found ripe in majority of the cases. Evacuation was however done at this visit in all cases. 5% Glucose with 10 units of Oxytocin in 540 ml, delivering 50-100 mIU/min was kept running intravenously during evacuation

and Ergometrine 0.25 mg. intravenously was given routinely before curettage.

The patients were discharged 4 to 6 hours after evacuation with an advice to continue antibiotics for five more days and to return back for follow-up after 7 days and again after 21 days. At the follow-up visits they were examined for any evidence of infection and incomplete abortion. At this stage they were advised for suitable contraception.

Results

TABLE I
Age Incidence

Age groups in years	No. of cases	Percentage
14-20	26	34.66
21-25	12	16.00
26-30	14	18.66
31-35	12	16.00
36 and above	11	14.66

50% of the cases were below 25 years of age.

TABLE II
Marital Status

Marital status	No. of cases	Percentage
Unmarried	45	60.00
Widow	12	16.00
Married (living with husband)	18	24.00

60% of the cases were unmarried girls.

TABLE III
Parity

Gravidity	No. of cases	Percentage
Primi	47	62.66
2nd	9	12.00
3rd	7	9.33
4th and above	12	16.00

62% of the cases were primigravidae.

TABLE IV
Period of Gestation

Period of gestation in weeks	No. of cases	Percentage
10-12	16	21.33
13-14	38	50.66
15-16	21	28.00

Majority were between 13 to 14 weeks gestation.

TABLE V
Number of Catheters Used

No. of catheters	No. of cases	Percentage
1	20	26.66
2	26	34.66
3	29	38.66

TABLE VI
Insertion Ripening Interval

Intervals in hours	No. of cases	Percentage
Less than 12 hours	34	45.33
12 to 24 hours	37	49.33
More than 24 hours	4	5.33

The cervix was ripe within 24 hours in all cases except 4.

TABLE VII
Complications

Complications	No. of cases	Percentage
Incomplete evacuation	1	1.33
Haemorrhage	4	5.33
Infection	4	5.33
Cervical tear	Nil	—
Total	9	12

In 12% of the cases minor complications occurred.

Discussion

Forceful dilatation of cervix carries with it the risk of injury and haemorrhage which later on leads to cervical incompetence.

Majority of our patients were young unmarried nulliparae. Due to social reasons such patients hesitate to stay in hospital for longer than a few hours. The present method was found extremely suitable for them as they had to stay in hospital only for half an hour at the time of catheter introduction and 4 to 6 hours at the time of evacuation.

We were highly impressed with the ease of cervical dilatation and evacuation in these cases. Though the cervix was not ripe clinically in 4 cases even at the end of 24 hours (Table VI) dilatation was extremely easy and no difficulty was encountered in any of them.

In 18 multiparae the procedure was followed by abdominal sterilization. At laparotomy, no evidence of infection was apparent in any of them. Even though these cases desired sterilization, hysterotomy was avoided due to high risk of post-hysterotomy scar endometriosis.

Considering the list of complications (Table VII), it was very small in the present series. Only 4 (5.3%) showed evidence of mild infection. Vaginal and cervical swabs were taken from them and proper antibiotic was given after culture and sensitivity test. Cervical laceration did not occur even in a single case. Haemorrhage more than average occurred in 4 cases during evacuation. Repeat dose of Ergometrine (0.25 mg. I.V.) and fastly running Oxytocin drip efficiently controlled haemorrhage in each of them.

Regarding the mechanism of action it may be presumed that rubber catheter induces mechanical trauma to decidua and foetal membranes which in turn leads to local prostaglandin release and eventually cervical ripening. Prostaglandin has been found to induce ripening of cervix by localise at term by Tromans *et al* (1981) and intramuscularly before suction evacuation by Jain *et al* (1981).

From the present study we conclude that plain rubber catheter is ideal for cervical ripening before suction evacuation. It makes the dilatation of cervix easy, so that risks of uterine perforation and cervical laceration due to forceful introduction of dilators are almost completely avoided. Rubber catheter is inert, cheap and easy to sterilize and insert, so that it can be used even by relatively less skilled personnel, and thus may be of great help to our National Family Welfare Programme.

References

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The present study was a retrospective analysis of 100 cases of mid-trimester abortion performed in the Department of Obstetrics and Gynaecology, All India Institute of Medical Sciences, New Delhi, India, from January 1978 to December 1978. The patients were selected on the basis of the following criteria: 1. Gestational age between 16 and 24 weeks. 2. Informed consent. 3. Availability of plain rubber catheter. 4. No contraindications to abortion. The patients were divided into two groups: Group I (50 cases) who had their cervix primed with plain rubber catheter and Group II (50 cases) who had their cervix primed with dilators. The results of the two groups were compared. The plain rubber catheter was found to be a safe and effective method of cervical priming. It was easy to use and did not require special skills. The patients who had their cervix primed with plain rubber catheter had a significantly higher success rate than those who had their cervix primed with dilators. The complications were minimal and similar in both groups. The plain rubber catheter is a simple, safe, and effective method of cervical priming for mid-trimester abortion. It is particularly useful in areas where skilled personnel are scarce.

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