

ROLE OF EXTRA AMNIOTIC RUBBER CATHETERS IN MIDTRIMESTER PREGNANCY TERMINATION†

by

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Regarding intraamniotic saline for induction of abortion the safety is still in doubt. Intraamniotic prostaglandins and urea are also extensively used for the purpose. By and large these intraamniotic procedures are not free from risks.

The purpose of the present investigation was to test the efficacy of the simplest mechanical method, namely extraamniotic rubber catheters without use of any drugs, because medical disorders complicating pregnancy were also included in the present series.

Materials and Methods

The pregnancy was terminated in mid-trimester in 200 patients by introducing autoclaved rubber catheter in extraamniotic space. This work was carried out in the department of Obstetrics and Gynaecology, Patna Medical College, Patna during the period August, 1978 to August, 1979. The cases were selected from the Gynaecological out patient department and Family Planning Clinic. The cases were also referred from Medical Wards. The patients of hypertension, heart disease, chronic nephritis, hepatomegaly, splenomegaly, ascites, jaundice

and pleural effusion were also included in the series.

In addition to the routine investigations, high vaginal and cervical swabs were also taken for culture and sensitivity. The infection was treated simultaneously with appropriate antibiotics. Tetanus toxoid was given as a routine to these patients. No sedation or anaesthesia is required for the procedure.

With all aseptic and antiseptic measures and after properly disinfecting the vagina No. 7 or 8, auto-claved rubber catheter was introduced through the cervical canal in the extraamniotic space. In few cases even 2 or 3 catheters have been used. Dilatation of the cervix was not required for the procedure. The catheter was pushed high up past the internal os and no part of the catheter was allowed to hang. If the resistance was met in introducing the catheter or bleeding occurred, the catheter was immediately taken out and reintroduced selecting a different site and a resistance free area to avoid piercing or detachment of placenta.

Radiological examination of the abdomen and pelvis was done 10 minutes after introduction of catheters in 64 out of 200 cases.

The abortion process was enhanced by oxytocin drip if there was delay in induction abortion interval.

After the completion of abortion the

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post-abortion period was carefully observed for any complication.

Results

The results were analysed according to age parity and socio-economic status. Effect of gestational period and disposition of the rubber catheter in the extra-amniotic space in uterus on induction abortion intervals was also analysed.

The results are presented in tables.

TABLE I
Induction-Abortion Interval

Induction abortion intervals in hours	No. of cases	Percentage
Within 24 hrs.	66	33%
24-36 hrs.	110	55%
36-48 hrs.	10	5%
48-60 hrs.	10	5%
60-72 hrs.	4	2%
Total	200	

TABLE II
Induction Abortion Interval in Relation to Period of Gestation

Duration of pregnancy	Total No. of patients	Abortion in 24 hrs.		Abortion in 24-36 hrs.		Abortion in 36-48 hrs.		Abortion in 48-60 hrs.		Abortion in 60-72 hrs.	
		No. of cases	No. of cases	hrs. No. of cases	hrs. No. of cases	hrs. No. of cases	hrs. No. of cases	hrs. No. of cases	hrs. No. of cases		
14-17 weeks	110	32	56	5	4	3					
18-22 weeks	90	34	54	5	6	1					
Total	200	66	110	10	10	4					

TABLE III

I.A.I. in Relation to Disposition of Catheter in extra Amniotic Space in Uterine Cavity on Radiological Examination

Disposition of Catheter	No. of patients	Abortion in 24 hours		Abortion in 24-36 hours		Abortion in 36-48 hours		Abortion in 48-60 hours		Abortion in 60-72 hours	
		No. of cases	No. of cases	hrs. No. of cases	hrs. No. of cases	hrs. No. of cases	hrs. No. of cases	hrs. No. of cases	hrs. No. of cases		
Fundal colling	32	28	4	—	—	—					
Colling lower down	25	10	7	—	5	3					
Colling with double catheter	7	4	3	—	—	—					
Total	64										

Maximum patients (55%) aborted within 24-36 hours. 33% of the patients aborted within 24 hours. There was no definite co-relation between period of gestation and induction abortion interval.

It is apparent from the above table that coiling of the catheter at the level of fundus caused abortion within 24 hours in 28 out of 32 cases.

Discussion

We are back again to the use of rubber catheters for induction of abortion. Though it sounds crude and primitive procedure, it is worth reviewing the role of extraamniotic catheters for termination of pregnancy.

Just like bougie, extraovular placement of rubber tube has been advocated by George (1978) for mid trimester abortion.

TABLE IV
Showing Complicated Cases in the Series

Nature of complication	No. of cases	Total No. of cases	Percentage
Rheumatic heart disease	4	200	2%
Hypertension	12	200	6%
Chronic nephritis	2	200	1%
Hepatomegaly, Splenomegaly, ascitis	1	200	.5%
Jaundice	2	200	.5%
Double uterus	1	200	1%
Total	22	200	11%

Manabe, Y. (1967) has reported upon the rise in the uterine activity in metreurynter and bougie induced abortion in midtrimester. Prolonged abortion time being a major concern by catheters a combined method of catheter and prostaglandins was advocated by Rajan *et al* (1979), Garud (1979) (personal communication) has used extraovular rubber catheter only for termination of midtrimester pregnancy with success.

In the present series of 200 cases rubber catheters were only used in the extra-amniotic space without any drugs, in view of the fact the cases of medical disorders complicating pregnancy were also included in the series.

The age of the patients varied between 15 to 45 years and duration of pregnancy 14 to 22 weeks. 90% of the patients belonged to low or average income group. 20% of the patients were multiparous and 80% were parous.

After the introduction of catheter the patients had negligible discomfort. The uterine contraction started 10 to 12 hours after the introduction of catheter (Tables I & II).

The mode of action of the catheter is mechanical irritation of the uterus leading to myometrial contractions simulating labour pain. It also presumed that the catheters partly separated the membranes

also to augment the abortion process. The myogenic nature of uterine contraction has also been reported by Manabe (1967).

The review of radiological examination in 64 cases revealed that the catheter which was pushed up to fundus of the uterus and coiling occurred at fundus led to more efficient uterine contractions 28 out of 32 cases aborted within 24 hours.

The uterine contractions were accelerated with the help of oxytocin drip in 12% of the cases after 36 hours of introduction of catheter. In 5 cases abortions was incomplete, and evacuation had to be done. The abortion was complete in the remaining cases including the cases of medical disorders complicating pregnancy. Bleeding was within normal limit. Post abortal period was apyrexial and vaginal discharge was normal.

The only drawback was that the catheter dropped out during defaecation and urination in 30% of the cases. Reintroduction was done without increase in infection rate and with successful results. Unpredictability regarding the induction abortion interval is another drawback.

Summary

By and large, this is the safe, simple and effective method for termination of midtrimester pregnancy. This is the only

method which can be used safely in medical disorders complicating pregnancy. The method is safe even in the hands of junior doctors and can be practised in rural areas by trained personnel.

References

1. George, S.: Bougie method of midtrimester abortion presented at the I.C.M.R.

scientific meeting on abortion Institute for research in reproduction, Bombay, 1978 (16th January).

2. Garud, M. A.: Termination of pregnancy in second trimester by mechanical means (Personal communication) 1978.
3. Manabe, Y.: Am. J. Obstet. Gynec. 99: 557, 1967.
4. Rajan, R. and Usha, K. R.: J. Obstet. Gynec. India. 29: 799, 1979.