

# COMPARATIVE EVALUATION OF MIDTRIMESTER PREGNANCY TERMINATION BY INTRA AMNIOTIC INJECTION OF 20% SALINE BY VAGINAL AND ABDOMINAL ROUTE

by

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Several methods have been tried in recent years for midtrimester termination of pregnancy. Evaluation of an effective, economical and safe method of midtrimester of pregnancy is still being made. Although 20% saline instillation is considered an economical and effective method, the choice of route of instillation does not appear to be well settled.

The purpose of the present study was to evaluate termination of midtrimester pregnancy by instillation through the vaginal route with that through the abdominal route.

## Material and Methods

Termination of pregnancy was done in 300 patients in the 2nd trimester during the period August, 1974 to August, 1978 in the department of Obstetrics and Gynaecology, Patna Medical College, Patna. The cases had been selected from the Gynaecology outpatient Department and family planning clinic. The cases were screened after detailed history, and systemic examination to exclude kidney diseases, hypertension and cardiac diseases. Before instillation estimation of haemoglobin, bleeding time, coagulation time and routine urine examinations were done. Special investigations were done when necessary. Tetanus toxoid was administered as a routine in all the cases as a preventive measures.

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*Abdominal instillation:* 20% saline was instilled in 150 cases (Group A) through the abdominal route. Amniocentesis was done with a 18 guaze spinal needle with stillette after 2% xylocaine anaesthesia. The site of puncture was below the fundus when the size of uterus was 16 weeks and midway between the height of fundus and symphysis pubis when the uterus was between 17-20 weeks size, 10 to 75 ml of the amniotic fluid was withdrawn depending on the period of gestation (3-4 ml per week of gestation). The quantity of 20% hypertonic saline instilled ranged from 120 ml to 200 ml, depending on the period of gestation (10 ml per week of gestation).

*Vaginal Instillation:* (Group B) With all aseptic and antiseptic precaution the spinal needle with stillette was introduced through the cervical canal and amniotic membranes were punctured. The withdrawal of stillette allowed the liquor to drain. 20% hypertonic saline was instilled through the spinal needle and polythene tube. The quantity of liquor withdrawn and saline instilled was the same as in Group A. Not more than 200 ml of saline was instilled in any case. Oxytocin drip was started in both the groups when the cervix was taken up.

## Results

The results were analysed according to the age, parity, instillation abortion intervals and complications. The results are presented in the following tables:



TABLE I  
Age

Age in years	Group A		Group B	
	No. of cases	%	No. of cases	%
15-25	80	59.3	100	66.6
26-35	65	43.3	40	26.6
36-45	5	3.3		

TABLE II  
Parity

Parity	Group A		Group B	
	No. of cases	%	No. of cases	%
Primi- gravida	100	66.6	104	69.3
Multi- gravida	50	33.3	46	30.6

TABLE III  
Instillation Abortion Intervals in Hours in  
Relation to Parity

Parity	Group A	Group B
Primigravida	27	20
Multigravida	23	18
Average	25	19

It is apparent from Table III that instillation abortion interval was much reduced in Group B both in primi and multi-gravidas

TABLE IV  
Instillation Abortion Intervals in Relation to  
Weeks of Gestation

Group	14-16 weeks	16-18 weeks	18-22 weeks
A. Primi- gravida	28 hrs.	24 hrs.	29 hrs.
Multi- gravida	24 "	22 "	24 "
B. Primi- gravida	20 "	17 "	20 "
Multi- gravida	18 "	16 "	18 "

Instillation abortion intervals were much reduced in Group B, irrespective of period of gestation (Table IV).

TABLE V  
Complications and Failures

Type of complication	Group A		Group B	
	No. of cases	%	No. of cases	%
Incomplete abortion	18	12	10	6.6
Headache	6	4	—	—
Hypertension	7	4.6	—	—
Severe haemorrhage	4	2.6	2	1.3
Shock	4	2.6	2	1.3
Infection	2	1.3	2	1.3
Failure	15	10	2	1.3

It is apparent from Table V that failure was (10%) higher in Group A compared to Group B (1.3%).

#### Discussion

After going through the literature it appears that Hypertonic saline is mostly instilled through the abdominal route with or without supplementation of oxytocin drip. Oxytocin drip was also given as a routine in both the groups in the present series, when the cervix was taken up. It helped in dilatation of the cervix and accelerating the abortion. According to Tamasker *et al* (1978) with hypertonic saline only the interval was 36 hours, but it was much reduced to 23.6 hours with addition of oxytocin drip. Kerenyi (1973) from a big series of 5000 consecutive saline abortion in New York, found mean abortion time of 22.5, 25 hours using in addition oxytocin 200 mU-50 mU per minute within 1 to 2 hours of saline instillation.

In the present series, the instillation abortion interval was 25 hours in the abdominal group. Weingold *et al* (1965)



and Ruttner (1966) recorded 24.9 and 29.6 hours respectively. Mukhopadhyay, P. K. (1975) recorded the average instillation abortion time and latent period 23.8 and 20.2 hours respectively without any significant correlation between the parity and instillation abortion time.

In the vaginal group, the instillation abortion interval was much reduced to 19 hours compared to 25 hours in the abdominal groups, though comparable results were recorded by abdominal or trans cervical route by Parikh *et al* (1975).

In the present series, the instillation abortion interval was also less in Group B compared to Group A, irrespective of period of gestation. Complication rate was also less in Group B.

Termination failed in 10% of the cases in Group A and only 1.3% in Group B. According to Mukhopadhyay (1975) the failure rate was 4.1%. Failure of termination occurred in 11.7% by Alpern *et al* (1968) and Macenzie *et al* (1971) respectively.

By and large vaginal route of instillation was preferred in present series for several reasons. There was technical difficulty in performing amniocentesis when the uterus was 14 weeks in the abdominal group. Successful instillation could be done in these cases by vaginal route. Moreover, vaginal route of instillation obviated the risk of intravascular or myometrial instillation. Peritoneal cavity was not entered and chances of bladder and bowel injury was nil. A few patients, however, complained of leakage of fluid in Group B, but it did not adversely affect the process of abortion.

It is worth commenting on a case in the vaginal group. She was 15 year old

unmarried girl with 18 weeks gestation. The cervix failed to dilate. It was pin point but taken up. Annular detachment of cervix was apprehended because of pressure of the presenting part on the cervix. Ultimately cervicotomy was performed and termination was successful.

#### Summary

Termination of pregnancy was carried out in 300 patients with 20% saline. The route of instillation was abdominal in 150 patients (group A) and vaginal in the remaining 150 patients (Group B). The age of the patients varied between 14 to 22 weeks.

A comprehensive study was made in the two group of patients regarding instillation abortion interval, complications and failure rates.

Instillation abortion interval was shorter in group B. Complications and failure rates were higher in Group A compared to Group B.

By and large termination was safer in Group B. Besides, vaginal approach obviated entry into the peritoneal cavity and local anaesthesia. There is no chance of bladder or bowel injury in the case of vaginal approach (Group B). The leakage of amniotic fluid was not a problem as the hypertonic saline was instilled through a lumbar puncture needle.

#### References

1. Alpern, W. M., Charles, A. G. and Friedman, E. A.: *Am. J. Obstet. Gynec.* 100: 250, 1968.
2. Kerenyi, T. D.: *Clin. Obstet. Gynec.* 116: 593, 1973.
3. Laheri, D.: *Proceedings of Second International Seminar on maternal and perinatal mortality, pregnancy termination and sterilization. March 1975, Bombay, India page 587.*

4. McKenzie, J. H., Roufe, A. and Tovell, H. M.: Clin. Obstet. Gynec. 14: 99, 1971.

5. Mukhopadhyay, P. K.: Proceedings of Second International Seminar on maternal and perinatal mortality pregnancy termination and sterilization. March, 1975, Bombay, India, page 570.

6. Parikh, S. R. and Joshi, K. S.: Proceedings of Second International seminar on

maternal and perinatal mortality, Pregnancy termination and sterilization. March, 1975, Bombay, India, page 483.

7. Ruttner, B.: Obstet Gynec. 28: 601, 1966.

8. Tamaskar, K. and Deshpandey, V. M.: J. Obstet. Gynec. India. 28: 515, 1978.

9. Weingold, A. B., Seigel, S. and Stone, M.: Obstet. Gynec. 26: 622, 1965.