

EXTRA OVULAR HYPERTONIC SALINE WITH SYNTOCINON AUGMENTATION IN SECOND TRIMESTER TERMINATION

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Termination of second trimester pregnancy requires more care and efficiency than termination in the first trimester. Various procedures have been tried for better results and safety. Hypertonic saline has been proved highly effective, but current methods increase the hospital stay, expenses and are associated with significant infection and haemorrhage. Some of the workers have found that if oxytocin augmentation is done along with 20% hypertonic saline instillation, induction abortion interval is shortened and in turn gives low complication rate.

Much more work has done with I.A. hypertonic saline with or without augmentation with oxytocin, but in the present series study has been done by using extraovular space for hypertonic saline instillation and augmented with syntocinon infusion in high concentration.

Material and Method

Present study includes 350 cases of the

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second trimester termination by instillation of 20% hypertonic saline by foley's catheter (No. 14-16) in extraovular space. These cases were further augmented by 40 I.U. syntocinon infusion.

For instillation patient was put in dorsal position after visualising the cervix and swabbing it with antiseptic solution. Foley's catheter No. 14 or 16 was slipped in till sufficient length was introduced in the uterine cavity, specially the bulb should go beyond the internal os of the cervix. Bulb then was inflated with 20 to 25 cc of distilled water according to capacity. Thereafter catheter was pulled out so the bulb remained at the internal os. 20% hypertonic saline was then instilled through the catheter within 15 minutes. We used 200 cc of the solution in all those cases. None of the patient required any anaesthesia or analgesia.

In all the cases syntocinon augmentation was done 2 hours after the instillation. Syntocinon drip, 40 units in 5% 500 cc dextrose solution was started with 20 drops/min; with this rate it gave 106 mu/min. and one infusion was finished in 6 to 6½ hours. Infusion was continued till the patient aborted.

All the 350 cases divided into 2 groups. Two hundred and fifty cases (Group 'A'), where the catheter was left in the uterine cavity until it was expelled spon-

taneously by uterine contractions. In another 100 cases (Group 'B') the catheter was removed after 4 hours of saline instillation. On removal of the catheter no leakage of the fluid was noted.

Observations

Age and Parity. Patients studied in this series were between 14-40 years of age. Maximum No. of cases were between 15-35 years. About 60.9% of the cases were either first or second gravida. Highest gravida in the present series was 10th.

Marital Status. 55.5% were married, 35.5% were unwed and 9% were widows or separated from husband.

Period of Gestation. Gestation varied from 16-22 weeks. 68% of the cases were between 18-20 weeks of pregnancy.

Cases of terminations are listed in Table I.

TABLE I
Indication for Termination

Indication	Cases
1-Socio-economic conditions or spacing	107
2-Vasectomy or Tubectomy failure	38
3-Other Contraceptive failure	46
4-Danger to the Physical health of mother (Medical indication)	16
5-Unwed, Widows and separated	143

TABLE II
Instillation—Abortion Interval

Time in hrs.	No. of cases aborted Group 'A'	No. of cases aborted Group 'B'
6-10	8	22
11-15	141	46
16-20	90	32
21-25	11	—

95% of the cases in Group 'A' and 100% of the cases in Group 'B' aborted within 20 hours of instillation.

TABLE III
Complications

Complications	Group 'A'	Group 'B'
1-Retained placental pieces	3	1
2-Hyernatremia	2	—
3-Cervical trauma	4	—
4-Postabortal fever	3	—

Follow up: Unmarried, widows and those separated never returned for check up. Among married group, 180 cases out of 207 came for check up after 1½ and 6 months, none had any problem.

Discussion

Intravenous syntocinon administration in high doses after 2 hours of the instillation of extraovular hypertonic saline (20%), has significantly shortened the induction abortion interval in both group 'A' and 'B' of the present series. It is possible for those several reports where authors have not noticed and significant reduction in instillation and abortion interval with the combination of oxytocin infusion and hypertonic saline (20%) is because they used oxytocin infusion after minimum of 12 hours of instillation. To affect the instillation abortion time significantly one must start the oxytocin soon after instillation. It is also essential to use oxytocin in high doses to get good results as stated by Caldeyro and Barcia Sereno (1961).

Mackenzie *et al* (1971) have mentioned 22.5 hours mean induction abortion interval where they used oxytocin augmentation with I.A. H.S. after short interval of instillation. Ballard and Quilligan (1973) have reported 85% abortion within 30 hours when used oxytocin augmentation with I.A. H.S. was employed, but it was only 35% when I.A.H.S. was employed without augmentation.

In the present series of 350 cases, quite encouraging results were achieved. In group 'A' 95% cases and in Group 'B' all the cases (100%) aborted within 20 hours of instillation.

Lauerson and Schulman (1973) have also observed that if oxytocin augmentation is done earlier with hypertonic saline induction abortion time was less than where they used late or not at all.

In the present series extraovular space was used for instillation with better results and less complications. Extraovular hypertonic saline besides the usual mechanism of inducing abortion has the added advantages of stimulating the uterus by extensive detachment of membranes. Mechanical stimulation can also give reflex release of oxytocin. Gustavi (1974) has suggested that extraovular procedure acts by releasing lysosomal hydrolytic enzymes within the decidual cells, which help in the release of prostaglandin precursors from membranous phospholipids and thereby help in synthesis of prostaglandins, resulting in uterine contractions and finally abortion.

There was no significant difference in induction abortion interval because of parity and age of the patients but had definite relation with the period of gestation. Cases with gestation of 18 weeks and above aborted earlier than cases between 16-18 weeks gestation.

Lauersen and Schulman (1973) reported retained placenta in 8 cases and 4 cases had postabortal haemorrhage where they used oxytocin augmentation within 2 hours of instillation. In the present series, only 4 cases had retained placental pieces which were removed with ovum forceps and none had excessive postabortal haemorrhage. In the present series the complications were negligible (Table III).

Uterine injury, especially laceration of cervix is also one of the complication in second trimester abortion.

Willems (1974) had 1 case of cervical laceration and 1 case of uterine rupture where only I.A.H.S. was used without oxytocin stimulation. Gabriel *et al* (1977) reported 5 cases among 80 cases of cervical trauma and 2 cases of corpus injury where they used intraamniotic prostaglandins with oxytocin augmentation. In both above mentioned series all the cases were multiparas. In the present series, only 4 cases out of 350 total had cervical trauma. Only small cervical tears which were repaired. All 4 were nulliparas.

Only 3 cases had postabortal fever in Group 'A' where catheter was left till expelled, but none had any infection in Group 'B' where catheter was removed 4 hours of instillation. This was the main reason why in the present study we started removing the catheter. Two cases developed clinical signs and symptoms of hypernatraemia both responded well to I.V. G.D.W. 5% rapid infusion and washing out by Furesamide 40 mg I.V.

Summary and Conclusion

1. Extra ovular instillation is easy and overcomes all the difficulties of intra-amniotic instillation.
2. Induction abortion interval was significantly shortened.
3. Complication rate was negligible.
4. Removal of catheter after 4 hours of saline instillation gave still better results.

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