ETHACRIDINE LACTATE (UNACREDIL) IN MIDTRIMESTER ABORTIONS AT S.S.K.M. GROUP OF HOSPITAL

by

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The method of evacuation of the uterus from 12 weeks onwards is a problem to obstetricians even today. The chief aim is physiological delivery of the foetus with safety to the mother. Various drugs through various routes have been tried but none have been found to be effective and safe.

The induction of abortion by instillating a solution in the extraovular space had been suggested by Cohen as early as 1846. With this route there is no chance of bladder or intestinal injury, and no anaesthesia is necessary. Since then various solutions have been tried in Japan. The use of Ethacridine Lactate dates from 1949, but more extensive studies have been carried out only recently by Manabe (1969).

The present article is a critical review of 50 cases of artificial abortion by extraovular instillation of 0.1% Ethacridine Lactate.

Material and Method

Fifty patients picked up at random at the S.S.K.M. group of Hospitals between 12 to 20 weeks of gestation were subjected to "Medical Termination of Pregnancy" by extra ovular injection of 0.1% of 100 ml. of Ethacridine Lactate (Unacredil). At this concentration even if it enters the blood stream it produces no harm. Because of its antiseptic properties it prevents infection.

The instillation was done in the wards. The patient was asked to empty her bladder and lie down in the lithotomy position. The usual cleaning and draping was done. A posterior vaginal speculum was inserted. The anterior lip of the cervix was held by an Allis forceps. A No. 16 size Foley's catheter was introduced through the external os with the help of an uterine dressing forceps till it passed beyond the internal os for a distance of 15 to 20 cm. Through this catheter 100 ml. of 0.1% Ethacridine Lactate was instilled by a drip metod in 10 minutes time. The bulb of the catheter was inflated with 10 c.c. of distilled water. The other end of the catheter was folded and tied with sterile gauze. The catheter was kept for 4 hours to prevent backflow of the fluid. In 2 cases immediately after instillation of the drug the catheter came out accidentally.

Since there was no backflow of the liquid the catheter was not reinserted. After removal of the catheter injection sparteine sulphate (Unitocin) 150 mg. was given intramuscularly four hourly for 2 doses in 42 cases. In the remaining 8 patients no sparteine sulphate was used and 5 cases turned out as failure.

Expulsion of the foetus within 48 hours was taken as success. Reinstillation was not done in any of the cases.

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Results and Observations

Majority of the patients were between 17 and 30 years of age. The youngest was however 17 and the oldest 42 years old.

In this series of 50 cases 39 married and 11 unmarried.

Out of 50 cases there were 13 primigravidas, majority of whom were unmarried women. There were only 3 cases above parity 5. There was a case of ventricular septal defect and another case of mitral stenosis with cardiac failure where pregnancy had to be terminated for maternal reasons.

Most of the patients in this series were of 14 weeks, 16 weeks and 20 weeks duration of pregnancy.

Socio-economic reason was the commonest cause of termination of pregnancy in this series. Next in order were the unmarried women and mothers wanting spacing of children (Table I).

TABLE I
Indications

Indications for M.T.P.	Total number of cases	Percentage of cases
Unmarried and widow	11	22
Socio-economic reason	24	48
For spacing of Children	11	22
Failed contraception	1	2
Prostaglandin failure	1	2
Medical indications	2	4

Thirty-eight of the 50 patients aborted within 24 hours of instillation of the drug. Only 2 patients required 46 and 47 hours respectively.

Of the failures 6 were method failures and were treated at the end of 72 hours either with 20% hypertonic saline intra-amniotically or with anterior hysterotomy. One case was of technical failure where the os was open and there was backflow of the entire fluid inspite of the catheter left in-situ. In 3 cases only 50 ml. of 0.1% Ethacridine Lactate was used. All the 3 cases failed. In one case on anterior hysterotomy a double uterus was detected and the solution had been introduced in the non-pregnant half.

In 9 patients surgical evacuation had to be done. There was retained placenta in 2 cases. Moderate bleeding, rigor and vomiting occured in 1 case each. There were however no incidence of fall of B.P., headache, diarrhoea cervical tear or infection.

At the end of 2 weeks only 2 patients complained of pain in abdomen and one patient had backache.

Discussion

0.1% Ethacridine Lactate administered extra-amniotically acts in 4 ways to procure abortion. (a) It causes mechanical stripping of the entire sac from the

TABLE II
Follow-up
FOLLOW-UP AFTER 2 WEEKS:

Complaints	Total number of cases	Percentage of cases
1. Moderate bleeding	—	—
2. Fever	—	—
3. Vomiting	—	—
4. Pain in abdomen	2	4
5. Backache	1	2

uterine wall. (b) It causes reflex release of oxytocin. (c) The catheter left-in-situ for 4 hours aids in mechanical stimulation of the uterus. (d) It causes release of Prostaglandin. Gustavi (1974) suggested that any solution given extraovularly causes release of Lysosomal hydrolytic enzymes within the decidual cells which help in the release of prostaglandin precursors from the membrane phospholipids and thereby help in the synthesis of prostaglandin. The process of abortion with 0.1% Ethacridine Lactate mimics that of an incompetent cervix.

The structure and function of the placenta does not show any significant alteration with 0.1% Ethacridine Lactate. Manabe (1969) showed that urinary steroid and plasma progesterone levels were within normal limits. In our series 25 out of the 40 babies born with 0.1% Ethacridine Lactate showed signs of life at birth, but succumbed within 5 minutes.

Ingemanson (1973) has given a comparative study of 53 cases of abortion performed by extra-amniotic instillation of 20% hypertonic saline with 53 cases of abortion by extra-amniotic injection of Ethacridine Lactate plus catheter. In the first 24 hours in the saline group there were 3 abortions between 12-16 weeks and 1 abortion between 17-20 weeks of pregnancy, whereas the figures with Ethacridine Lactate were 13 and 7 respectively. In the next 24 hours there were 26 abortions in the saline group against 24 in the Ethacridine Lactate group. In this series of 50 cases with 0.1% Ethacridine Lactate there were 26 abortions (including one twin pregnancy) between 12-16 weeks and 12 abortions between 17-20 weeks of pregnancy in the first 24 hours. In the next 24 hours there were only 2 abortions.

Hence with Ethacridine Lactate the success rate is higher and more women abort in the first 24 hours. The complications are also less than hypertonic saline as shown by Ingemanson (1973). In his saline group (53 cases) there was pain during instillation in 16 cases, nausea and vomiting in 4 cases, fall of blood pressure in 3 cases and temperature in 16 cases. In our series of 50 cases of 0.1% Ethacridine Lactate pain during instillation occured in 1 case, moderate bleeding, rigor and vomiting in 1 case each, surgical evacuation in 9 cases and retained placenta in 2 cases. Bengtsson (1967) published a report in reply to questionnaire submitted by Gynaecologic department of Sweden. In the extraamniotic group of 3364 cases, there was one death due to sepsis, one case of serious haemolysis and 3 cases of myometrial necrosis treated by hysterectomy. In Japan about 35,000 abortions are performed every year after 12 week of pregnancy. Previously hypertonic saline was used extensively but since Hashizume (1950) reported serious complications—among others 13 deaths in 6,611 abortion cases—other safer and successful methods have been tried.

The much talked about prostaglandin has its limitations. Krishna *et al* (1974) have given a comparative analysis between intraamniotic hypertonic saline, intraamniotic prostaglandin and extra-amniotic Prostaglandin $F_{2\alpha}$. In 34 patients extraovular prostaglandin $F_{2\alpha}$ was given.

The average injection—abortion interval was 28.3 hours. Vomiting occured in 49 patients, diarrhoea in 10 cases and fever in 1 patient. The 3rd stage was incomplete in 7 patients, excessive bleeding occured in 2 patients and blood transfusion was necessary in 1 patient.

Recently we have tried the 15 methyl

analogue of extraovular prostaglandin $F_{2\alpha}$ in our centre. The injection abortion interval was 29.2 hours. Vomiting occured in 56% of cases, diarrhoea in 64%, headache in 4%, fall of blood pessure in 4%, retained placenta in 44% and sepsis in 4%.

Summary

Hypertonic saline, the most widely used solution, so far, in midtrimester termination of pregnancy is not without side-effects. Coagulation disorders, hypernatraemia and infection have resulted in many casualties. It cannot be administered in cases of renal dysfunction.

Prostaglandins are not without side-effects. Vomiting, diarrhoea, retained placenta, sepsis and occasional fall of blood pressure are the common complications. Heart disease and hypertension are contraindications to its use.

0.1% Ethacridine Lactate is however the drug of choice between 12 to 20 weeks of pregnancy. The side-effects like bleeding, vomiting, retained placenta and surgical evacuations are minimal. No analgesics or antibiotics are necessary. It can be safely used in heart disease and renal disorders.

Conclusion

Of the different methods so far tried in midtrimester termination of pregnancy, 0.1% Ethacridine Lactate is the safest, mimicing physiological labour. It can be used in cases of heart disease, hypertension and renal disease. The success rate is over 80%. In majority of the cases abortion occurs within 1st 24 hours. It is complete and requires no currettage.

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