

INTRA-AMNIOTIC SINGLE DOSE OF PROSTAGLANDIN (15 (S) 15 METHYL PG F₂ METHYL ESTER) AND UREA COMBINATION FOR SECOND TRIMESTER ABORTION†

by

AJAY K. GHOSH,* M.D., Ph.D., F.R.C.O.G.

DEBASHIS CHATTERJEE,** M.B.,B.S.

ANANDA CHATTERJEE,** M.B.,B.S.

KEYA GHOSH,** M.B.,B.S.

and

AMIYA SENGUPTA,*** M.D.

The need for an ideal method of termination of mid trimester pregnancy can not be overemphasised. A simple method which will decrease the induction to abortion interval, reduce troublesome side effects and complications is most certainly welcome. It is in this context that the present study was conducted to evaluate the safety and effectiveness of intra-amniotic single dose of 1 ml (250 microgram) 15(S) 15 methyl PGF_{2α} in combination with 40 Gms of urea dissolved in 100 ml of 5 per cent dextrose for mid trimester abortion.

Material and Methods

A single dose of intra-amniotic 40 Gm of urea dissolved in 100 ml of 5 per cent dextrose and 1 ml (250 microgram) of PGF_{2α} was used for termination of 25 pregnancies at the National Medical College Hospital, Calcutta.

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*Professor.

**House Surgeon.

***Clinical Tutor.

Department of Obstetrics and Gynaecology, National Medical College, Calcutta, India.

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Abortion procedure

After the patient emptied her bladder, she was placed in the dorsal position and a small wheal was made with 1% lignocaine solution of the abdominal wall midway between the symphysis pubis and the uterine fundus. An 18-gauge lumbar puncture needle was advanced through this infiltrated area until the amniotic cavity was reached. After the needle was ascertained to be in the amniotic cavity, 100 ml of 40% urea with 1 ml (250 microgram) prostaglandin F₂ Methyl analogue was injected. In the event of a bloody tap, the needle was withdrawn and a separate puncture site (toward the patient's flank) was selected. After amniocentesis, the needle was withdrawn and the puncture site was sealed with tincture of benzoin. Immediately after the procedure, the patient's pulse and blood pressure were recorded and were rechecked after half an hour.

Subjects

Women with incomplete abortion or a history of attempted induced abortion during the current pregnancy were excluded from the study. The study subjects were aged 15-34 years with parity

ranging from 0 to 6; about half of them were unmarried. The majority of women were at more than 17 week's gestation.

Definitions and criteria

Gestational age was calculated as the number of completed weeks from the first day of the subject's last normal menstrual period to the day of the abortion. A trial was defined as a method failure if the subject failed to abort the fetus within 48 hours of initiation of the abortion procedure. The abortion was defined as incomplete if the subject failed to expel all products of conception and surgical procedures were necessary to complete the abortion. The instillation-to-abortion time was defined as the interval from amniocentesis to complete expulsion of the fetus.

The abortion procedure was evaluated for (a) instillation-to-abortion time, (b) rates of incomplete abortion, and (c) side effects and complications.

Clinical Findings

All 25 women received the 40% urea-prostaglandin combination intra-amniotically. In 2 cases, clear amniotic fluid was obtained in a second attempt when the first attempt resulted in a bloody tap. All the patients aborted after a variable period (Table I).

TABLE I
Adverse Reactions and Complications Observed
in 25 Women Undergoing Pregnancy
Termination

Adverse reactions complications	No. of cases having complications	Percent
Bloody tap	2	8.0
Vomiting	2	8.0
Diarrhoea	3	12.0
Cervical injury	1	4.0

Complications

Vomiting occurred in 2 patients (8%), once only in one and twice in another. Three patients (12%) had diarrhoea. Retained placenta occurred in 3 (12%) of the cases, which were usually removed with sponge holding forceps.

Induction-abortion interval

Eighty-four per cent of the women aborted within 48 hours. The mean time between induction and abortion for the 25 abortees was 22.23 hours.

In 4 (16%) cases the induction-abortion time exceeded 48 hours but was completed within 56 hours and further required oxytocin stimulation.

Discussion

Intra-amniotic instillation of hypertonic saline is most commonly used method of terminating second trimester pregnancy. In view of varying complications including deaths reported with intra-amniotic saline a search for alternative newer agents continued. The prostaglandins are welcome in this respect. Most investigators have found that the mean induction-abortion interval of the intra-amniotic method is 20-25 hours using prostaglandin alone. The addition of both urea and laminaria tent reduces the abortion time. The results of the intra-amniotic single dose of 250 microgram of $\text{PGF}_{2\alpha}$ and 40 Gm of urea was followed by abortion in 84 per cent of cases within 48 hours with a mean abortion time of 22.08 hours, which is much less than our previous series of saline-induced abortion. However, Craft (1975) reported that 80 Gms of urea in combination with 2.5 mg PGF_2 administered intra-amniotically reduced the abortion time to a mean of 11 hours. Using laminaria prior to PG intra-amniotic Stabelfeld (1975) also decreased the mean

abortion time and gastrointestinal side effects.

The minimum dose (250 microgram) of $\text{PGF}_{2\alpha}$ used in this small series with 40 per cent urea in 5% Dextrose was quite effective in procuring abortion in all the cases, though in 4 (16%) the abortion time exceeded 48 hours.

The gastro-intestinal side effects like vomiting and diarrhoea occurred in only 8 and 12 per cent, respectively, of cases and then again the frequency of these in individual patient was very low. This is most certainly a welcome feature worth considering in contrast to repeated large intramuscular dose—associated with increased incidence of side effects such as vomiting diarrhoea and pyrexia. There was no pyrexia in our series.

Summary

The mean age of the women having abortion was 22.08 and the mean parity was 0.88, almost half of them were unmarried and nulliparous. The success rate was 84 per cent when 48 hours was the cut-off point between induction and expulsion of the fetus. The mean induction-abortion time was 22 to 33 hours. The

frequency, intensity and the low incidence of the side reactions, like vomiting and diarrhoea in 8 and 12 per cent, the reduced incidence of retained placenta (12 per cent) without haemorrhage, the absence of post abortal pyrexia, cervical tear and excessive bleeding are considered to be the distinct advantages of this method over the repeated intramuscular large dose of Prostaglandins.

Acknowledgement

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References

1. Brenner, W. E., Edelman, D. A.: Contraception 10: 171, 1974.
2. Craft: Quoted from Population Reports. Series G, No. 6. P. G. 59, Sept. 1975. George Washington Univ. Med. Centre.
3. Stablefield: Quoted from Population Reports. Series G. No. 6., 1975. George Washington Univ. Medical Centre, Washington.