TERMINATION OF SECOND TRIMESTER PREGNANCY

by

C. M. ALWANI,* M.D., D.G.O.

S. G. GOGTE,** M.B.B.S.

V. N. PURANDARE,*** M.D. (Bom.), F.R.C.S. (Edin.)

Introduction

Dilatation and currettage or vaccum aspiration is an accepted method of termination of pregnancy in the first trimester. Search is still being made for an ideal method of termination of pregnancy in the 2nd trimester. Between 14-16 weeks of pregnancy vaginal transcervical injection of intra-amniotic saline can be done. After 16 weeks of gestation abdominal or vaginal route can be employed. Various substances have been used such as hypertonic glucose, urea and mannitol, none of the substances was found to be particularly safe. Nowadays, intra-amniotic injection of hypertonic saline is being used widely. Gradually the reports of various complications resulting thereof are being reported. The most recent substance being tried extensively is the Prostaglandins which is claimed to be quite safe and efficacious. Further results of the trials are still awaited.

Material and Methods

Three hundred cases of termination of pregnancy between 14-20 weeks of gestation done at K. E. M. Hospital have been analysed regarding:

1. Age, parity and marital status.
2. Route of intra-amniotic injection and type of solution used.
3. Outcome of the procedure and associated complications.

In all these patients intra-amniotic injection was carried out to procure abortion. In 270 cases, intra-amniotic injection was carried out per abdomen and in 30 cases vaginal transcervical intra-amniotic injection was done. Vaginal route is especially useful in patients with pregnancy of 14 weeks duration when abdominal intra-amniotic injection is comparatively difficult. In these cases a special 6" long 20 No. modified lumbar puncture needle is used which facilitates the fitting of the needle to the aspiration syringe. In all our cases amniotic fluid was first aspirated and the patients in whom hypertonic saline was used, the amount to be injected was calculated as 10 cc of solution per week of pregnancy. The total amount not exceeding 200 cc. The vaginal route was found to be very easy and much preferred by the patient herself.

Results

Unmarried girls formed nearly 28% of the total 300 2nd trimester terminations. This high incidence may be due to the fact that the unmarried girl is often too scared to tell anybody till it is almost too late. Six unmarried girls had come with pregnancy beyond 26 weeks, all of them

*Assistant Professor, Obstetrics & Gynaecology, Project Officer of Post Partum Programme.

**House Surgeon, Department of Obstetrics & Gynaecology.

***Head of the Department and Hon. Professor of Obstetrics and Gynaecology.

K.E.M. Hospital, Parel, Bombay-12.

were referred to the social worker for continuation of pregnancy.

The 105 primigravidae include the 85 unmarried girls. Out of the remaining 20, most of them were recently married and insisted on procuring an abortion due to various reasons such as, husband not having a steady job, no proper accomodation and low socio-economic status. In all these patients termination was done on the promise of accepting a contraceptive, mostly Lippes loop or CuT immediately after abortion or before discharge. In multigravidae sterilisation was advised.

Majority of the patients were in the 16-20 weeks group. Probably the availability of procuring an abortion may not be still widely known.

In most of the cases hypertonic saline, 20% was injected. Prostaglandin trial was started recently hence only 20 cases of Prostaglandin are presented. In 2 cases of renal hypertension, intra-amniotic 25% glucose was used and in one case 40% mannitol was used (Table 1).

TABLE I

Type of Solution Used

Solution	No. of cases
Hypertonic 20% saline	277
Hypertonic glucose 25%	2
Mannitol 40%	1
Prostaglandins	20

Injection onset interval is taken as the time between injection and starting of abortion interval as the time between injection and complete abortion. In most of the hypertonic saline cases viz. in 200 cases, the abortion was completed within 24-48 hours; only in 18 cases the injection abortion interval was more than 48 hours viz. as much as 53-56 hours (Table II). Four cases did not abort and were terminated by intravenous pictocin drip and laminaria tent introduction.

TABLE II

Outcome of Intra-amniotic Hypertonic Saline Injection

	Induction onset interval		Induction abortion interval			Failure
	less than 24 hours	more than 24 hours	less than 24 hours	24-48 hours	more than 48 hours	
No. of cases	102	175	55	200	18	4

One interesting case is cited here. Intra-amniotic injection of hypertonic saline was done twice after aspiration of few cc. of amniotic fluid but the patient did not abort. Transcervical amniocentesis was tried but the sac could not be located. On exploration of abdomen secondary abdominal pregnancy was found.

It was observed that the induction onset interval and induction abortion interval was comparatively less in patients in whom intra-amniotic Prostaglandin was injected. Two cases in whom the induction abortion interval was more than 48 hours were regarded as technical failures. In 2 cases of true failure who did not abort even after the 3rd day after the injection, one responded to I.V. Pitocin drip and the other aborted after intra-amniotic saline injection.

In one patient abdominal sterilisation and intra-amniotic injection of 200 ccs. of mannital was carried out at the same time. She developed fever on the 6th day and later aborted. Subsequently she had

TABLE III

Outcome of Prostaglandin Injection

	Induction onset interval		Induction abortion interval			failure
	less than 24 hours	24-48 hours	less than 24 hours	24-48 hours	more than 48 hours	
No. of cases	19	1	10	6	2	2

burst abdomen. Resuturing was done and the wound healed well.

In 2 patients intra-amniotic glucose was injected, both aborted within 24-48 hours.

It was observed that patients who came to seek termination, were more prone to accept a family planning method. 51% of patients of 2nd trimester terminations in our series accepted family planning methods. In 60 patients intra-amniotic saline injection and abdominal sterilisation was done at the same time. These were selected cases who did not want to stay in the hospital for a longer time and those who were likely to run away after the abortion without getting sterilised. We preferred to take the risk of failure of intra-amniotic saline injection compared to the risk of her coming back for repeated abortions. Only one case in this series failed to abort, but she later responded to I.V. pitocin drip.

TABLE IV

Family Planning Methods Adopted

I.S. with abdominal sterilisation	Post abortal vaginal sterilisation	Post abortal loop insertion	Oral contraceptives	Total No. of cases
60	50	23	20	153

Fifty patients had incomplete abortion following injection of hypertonic saline injection. Twenty-one cases required digital removal of the placenta under pethidine. In 18 cases dilatation and curettage had to be done to complete the abortion and 11 cases responded to pitocin drip.

TABLE V

Main Complications

Complication	No. of cases
Incomplete abortion	50
Pyrexia	18
More bleeding	11
Pelvic infection	2

Slight rise of temperature after intra-amniotic injection was quite common, only in 18 cases the temperature was more than 99.5-100°F. these patients were treated with antibiotics.

There was excessive bleeding in 11 cases, out of which 5 were cases of intra-amniotic Prostaglandin injection. It was observed that these patients bled more compared to the patients in whom intra-amniotic saline injection was done. Out of 11 cases, 3 had bleeding severe enough to require blood transfusion.

One patient had mild pelvic infection following currettage done for incomplete abortion after intra-amniotic saline injec-

tion. She responded well to antibiotics and prednisolone. One patient of intra-amniotic saline injection and vaginal sterilisation was readmitted one week after discharge from the hospital. She had bilateral tubo-ovarian masses. She was treated with antibiotics, Indocid and prednisolone. She had to be in ward for nearly one month. After discharge, she was referred for short wave diathermy. She came for follow-up after two months. The masses had resolved completely.

One patient complained of tingling and numbness. There was hyperpnoea and hyperpyrexia. Patient looked pale. B.P. rose from pre-operative B.P. of 110/70 to 160/100. The patient was given 40 mg Lasix intravenously, complete bed rest and 100 mg. of pethidine intramuscularly. The patient recovered within a short time.

Most of the patients complained of thirst and mild pain in the abdomen after injection of intra-amniotic saline.

There was no mortality in the present series.

Discussion

A series of 300 cases of pregnancy above 12 weeks of gestation induced with intra-amniotic injection of saline in majority of cases is analysed. We have luckily not come across major complications associated with intra-amniotic saline injection.

Beller *et .al* have 'reported the development of coagulation defect which was found to be self limiting, resolving after the expulsion of the foetus similar to that of intrauterine death of foetus.

Kinch has emphasized that saline induction should still be considered a hazardous method of terminating pregnancy and a search for an ideal method of terminating mid-trimester pregnancy is essential.

Many methods have been used for termination of mid-trimester pregnancies such as (i) intravenous Prostaglandins F_2 Alpha & E_2.

(ii) Extra-amniotic use of Prostaglandin PG F_2 Alpha.

(iii) Craft and Musa (1971) used intra-amniotic urea and simultaneously intravenous oxytocin infusion. No serious side effects are reported.

(iv) Extra-amniotic injection of hypertonic saline has been tried.

(v) Nabriski and Kalmanovitch (1971) used 0.1% Rivanol solution Extraovular through a metal cathetar introduced between the uterine wall and foetal membranes, associated with oxytocin drip in 90% of cases. There was no mortality and no failure. All the patients aborted between 20-24 hours.

(vi) Lewis and Phybus (1971) used an acridine dye, aminacrine hydrochloride, extraovularly in 23 patients. All the patients aborted with a mean induction delivery interval of 59 hours assisted by a I. V. pitocin drip in most of the cases.

(vii) In Japan hypertonic saline infusion technic has been abondoned. A rubber cathetar or bag cathetar is inserted into the extraovular space and an oxytocin drip is used or instillation of 0.1% Acrinol into the extraovular space through the cathetar is done. They have also started using Prostaglandins.

Extensive trials are being conducted to prove the usefulness of Prostaglandins for termination of pregnancy both in 1st and 2nd trimester of pregnancy.

Hence the search for the ideal method for mid-trimester pregnancies still continues.

Summary

300 cases of mid trimester pregnancy termination with intra-amniotic injection of various substances have been studied in detail and the results are presented.

Acknowledgement

We are thankful to our Dean, Dr. C. K. Deshpande, M.D., for allowing us to use hospital data and to publish this paper.

References

1. Beller, F. K. and Rosenberg, M.: Amer. J. Obst. & Gynec., **112**: 534, 1972.
2. Craft, I. L. and Musa, B.: Lancet, 2: 1058, 1971.
3. Kinch R. A.: Quoted by Greenhill, J. P. Year Book of Obst. & Gynec., Page 47, 1972.
4. Lewis, B. V. and Phybus, A.: J. Obst. & Gynec. Brit. Cwlth., 78: 838, 1971.
5. Nabriski, S. A. and Kalmanovitch, K.: Amer. J. Obst. & Gynec., **110**: 54, 1971.