MIDTRIMESTER TERMINATION OF PREGNANCY WITH INTRA-AMNIOTIC CARBO PROST-TROMETHAMINE (15-S-15Me PGF2 ALPHA) AND ITS SIDE EFFECTS

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SUMMARY

The use of 15-s-15-Me PGF_2 Alpha as a second trimester abortifacient is highlighted in this study. In a series of 44 cases, special reference is given to induction-abortion interval, side effects, complications, blood loss and changes in coagulation factors, if any.

Introduction

Termination of pregnancy is perhaps the oldest and commonest method of fertility control. While first trimester pregnancy termination is quite easy and safe, second trimester termination poses a problem for the obstetrician. Various methods available are hypertonic saline rivonol, mannitol and urea. Prostaglandins are a useful tool in the obstetricians' armamentarium as midtrimester abortifacients. The parent prostaglandins PGE and PGF and their various synthetic analogues have been used. The latter have a longer action and are more resistant to metabolism. In the present study, a synthetic analogue of PGF_2 alpha i.e. 15-s-15 Me PGF_2 alpha has been used intra-amniotically as a second trimester abortificient.

Material and Methods

The study was conducted on 44 patients admitted in State Zanana Hospital, Jaipur from January 1981 to January 1982 for termination of second trimester pregnancy. The gestational age varied from 16 to 24 weeks. They were healthy gravidas; patients with heart or kidney or lung diseases were excluded from the study. The product used for termination i.e. 15-s-15 Me PGF_2 alpha intra-aminotically is marketed in India by the Up-John Company under the trade name of Carboprost-Tromethamine as 10 c.c. vials. containing a total of 2.5 mg. of the drug.

A careful history of the patient was taken and the following preinstillation investigations were carried out:

(1) Haemoglobin.
(2) Bleeding time.
(3) Clotting time.
(4) Clot retraction time.
(5) Quick's one stage prothrombin time.
(6) Thromboplastin generation test.
(7) Plasma fibrinogen level.
(8) Platelet count.
(9) Platelet aggregation.
(10) Plateled adhesiveness.

The drug was then injected intra-

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aminotically, with a 3" thin walled 17 gauge lumbar puncture needle with styllete. A dose of 2.5 mg. was injected slowly over a period of 5 minutes, keeping a watch over the patients' general condition and for any side effects.

The patient was kept under strict observation throughout the time taken for abortion and for 24 hours after. The haematological investigations were repeated 24 hours after instillation.

Observation and Results

There were a total of 44 patients in the age ranging from 15 to 42 years. There were 13 multis and 31 primis. The gestational age varied from 16-24 weeks.

In 22 cases (5 %) the indication for termination was multiparity, while the rest 50% included unweds, missed abortion and cases of failed sterilization.

The latent period (between drug instillation and first uterine contraction) ranged from a minimum of 2 minutes to a maximum of 5 hours 30 minutes. The induction abortion interval (between drug instillation and completion of abortion) ranged from 6 hours 22 minutes to a maximum of 26 hours with a mean of 18.01 hours.

The drug commonly used were inj. Pethidine (75%), inj. Stemetil (31.82%) and tablet Lomotil (34.09%). Inj. largactil was used in 6.82% patients, Inj. calmpose in 11.36% and sparine in 2.27% patients. (Table I).

TABLE 1

Drug Therapy Required

S. No.	Name of Drug	No. of cases	Percentage
1.	Lomotil tab.	15	34.09
2.	Pethidine inj.	33	75.00
3.	Stemetil inj.	14	31.82
4.	Largactil inj.	3	6.82
5.	Calmpose inj.	5	11.36
6.	Sparine inj.	1	2.77

Nausea, vomiting and diarrhoea were the commonly uncountered side effected in 56.82% patients. One patient had nausea and chest pain within 2 minutes of drug instillation. Five patients had cervical injury, of which 1 had a laceration and 1 had annular detachment of cervix; the remaining 3 had linear tears no posterior cervical wall. Rupture uterus occurred in 1 patient—a multi, transversely in lower uterine segment. (Table II).

TABLE II

Incidence of Side Effects and Complications

S. No.	Complication	No. of cases	Percentage
1.	Dyspnoea	1	2.27
2.	Chest pain	1	2.27
3.	Nausea	1	2.27
4.	Vomiting	25	56.82
5.	Diarrhoea	25	56.82
6.	Cervical injury	5	11.36
	— Bucker handle	1	
	— Post. lip injury	4	
7.	Non-dilatable ext. os.	10	22.75
8.	Rupture uterus	1	2.27
9.	Haemorrhage	—	—

In this study there was no significant change in the various coagulation factors between the preinstillation value and the values 24 hours after instillation.

The overall success rate was 97.72% i.e. 43 cases. There was 1 failure. Amongest the 43 successful cases. 31 had complete abortion, 2 had incomplete abortion hence evacuation was done. In 10% cases, the products of conception were pushed into lower uterine segment due to good uterine action, but were not expelled due to constriction ring dystocia at the external os, although cervix was completely effaced. Hence delatation and curettage was done. In one case (2.27%) as, there was no progress upto 24 hours, hysterotomy sterilisation was done and this was taken as failure. In all cases, blood loss was minimum and no case of haemmorrhage was encountered.

Discussion

Carboprost Tromethamine has proved to be an effective midtrimester abortifacient in our study. The success rate of 97.72% is comparable to that of Dungefelder *et al* (1976-95%), WHO task force (1977-95.6%), ICMR trials (1978-93%) and Sethi *et al* (98%) respectively. Vomiting and diarrhoea were the most commonly encountered side effects. The incidence of cervical tear and rupture uterus was 11.36% and 2.27% respectivly. Of the 5 cases of cervical tear, 4 were primigravidas and 1 was multigravida. The WHO task force (1977), ICMR multicentric trials (1978), Sethi and Jaluawala (1979), Mukherjee *et al* (1979) have reported the incidence of cervical tear as 2.9%, 1.4%, 1.9% and 6.6% respectively. In the WHO study out of 20 cases of cervical injury, the incidence in primis was 4.4% and in multis 1%. In ICMR trials also, most of the cases were primiparous. Thus, apparently cervical rupture in young primis may be due to failure of the unelastic external os to dilate, while the internal os has opened, allowing the transmission of the intrauterine pressure to the cervix.

There is no significant effect of Carboprost-Tromethamine on coagulation factors. Similar reports were given by Dingefelder *et al* (1976), but Dutta *et al* (1979) have reported a case of coagulation defect with the same drug. Defibrination does not occur with Prostaglandins as they do not result in alteration of coagulation factors because of (i) insignificant change in amnious permeability and (ii) due to later occurrence of foetal death, just prior to the expulsion of the foetus. According to Brenner *et al* (1973), foetal heart sounds often disappear shortly after injection of saline, while they usually persist until the foetus is expelled in the vagina with PGF_2 alpha, indicating the cause of coagulation failure in saline.

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