ORIGINAL PROF-699

ROLE OF PGF2α IN MID TRIMESTER TERMINATION OF PREGNANCY

DR. MAHNAAZ ROOHI, FRCOS
Professor of Gynaecology & Obstetrics
Punjab Medical College, Faisalabad

ABSTRACT... editor@fsd.paknet.com.pk **Objectives:** To find out the efficacy of extra-amniotic PGF2α for termination of pregnancies in 2nd trimester when the uterus is very unresponsive to the action of oxytocin **Design:** A retrospective study. **Place & Duration of Study:** Obstetrics & Gynaecology Unit I Allied Hospital Faisalabad from 01.01.2000 to 30.06.2001. **Patients & Methods:** Fifty patients who were admitted in Obstetrics & Gynaecology inpatient department as a case of missed abortion, IUD congenital abnormalities, incomparable with life PR. Prom. These patients were analyzed in great details regarding history, clinical examination and investigations. We used PGF2α extra amniotically. **Results:** All the patients expelled the fetus and placenta safely with no adverse effects on mother. None of our patients required hysterectomy. **Conclusion:** It is highly effective, simple safe and convenient method of midterm termination of pregnancies.

INTRODUCTION

Pregnancy is ordinarily more stable during the 2nd trimester and induction of abortion during this period necessitates overcoming formidable obstacles. The mid trimester pregnant myometrium is quiescent and resistant to oxytocin stimulation so termination in 2nd trimester poses a big challenge for obstetrician.

Moreover it carries a higher rate of complication than for first trimester. The incidence of major complications hemorrhage, thromboembolism, operative trauma and infection is 2%[1].

With an increasing number of women undergoing antenatal diagnostic procedures, a significant number of 2nd trimester terminations are performed because of congenital abnormalities which are either incompatible with life or associated with a handicap life. Termination is also required on medical grounds where continuation of pregnancy encounters major hazards to maternal health such as premature rupture of membranes or missed abortion etc.

The methods available for termination of 2nd trimester pregnancy are limited. Dilatation and evacuation carries the risks of cervical laceration, uterine perforation and retention of products of conception especially after 16 weeks[2].

Oxytocin infusion in increasing concentration is a safe method but large does of oxytocin sometimes carry the risk of water intoxication. In addition, the uterus responds poorly to oxytocin in the mid trimester.

Because of the short coming of other medical methods of inducing abortion, prostaglandins are used extensively to terminate pregnancy especially in 2nd trimester. PGF2α was used for induction of

labour first by intravenous infusion[6]. Reports on the use of PG intra-amniotcally, extra-amniotically, orally and vaginally appeared in the literature within months of initial reports[7].

MATERIALS & METHODS

This study was carried out at Allied Hospital Faisalabad from Jan 2000 to June 2001. Fifty patients admitted in the inpatient department of obstetrics and gynaecology were included. Evaluation of patients started with age of patients as the incidence of congenital abnormalities are high is women aged above 35 years.

History of booking is important as congenital anomalies, missed abortion, IUD are picked up earlier by a detailed USG so termination in first trimester is much easier than 2nd trimester.

Gestational age of the patient is very important because the complication is directly related to gestational age. As gestation advances the complication rate rises. In low socio economic groups complications are high as they do not have access to proper medical facilities so diagnosis is late and gestational age is advanced. They may be multi paras and anaemic with no concept of family planning.

Examination included general physical examination and abdominal examination to see any previous scar on abdomen, fundal height, fetal parts felt or not and bimanual examination to see the condition of cervix to access the size of uterus and any adnexal mass. All basic investigations like Hb%, blood grouping, Rh factor, urine complete, blood sugar levels and in case of IUD or missed abortion coagulation profile like PT, APTT and platelet count and fibrinogen level.

After evaluation of patients we use PGF2α Inj. By extra amniotic route with the help of foley's catheter into the extra amniotic space through cervix. We combined this with oxytocin infusion simultaneously to expedite the process of expulsions.

RESULTS

Fifty patients were included in this study. They were divided into various groups regarding their age, parity, gestational age and presence of risk factor.

Table - I:Maternal age

Age in years	No of patients	%age
Less than 18-22 years	11	22%
23 - 27 years	16	32%
28 - 32 years	12	24%
33 -37 years	7	14%
38 - 42 years	4	8%

Table - II : Parity

Parity	No of cases	%age
P1	14	28%
P2-4	21	42%
P5-7	11	22%
P8 and above	4	8%

Majority of patients requiring TOP belonged to the age group 23-27 years (Table I).

Table - III: Gestational age

Gestational age	No of cases	%age
14 - 18 weeks	9	18%
19 - 23 weeks	15	30%
24 - 26 weeks	26	52%

Majority of cases presented in advanced gestational age due to lack of awareness of antenatal care and early ultrasound scan (table II).

Table - IV: Indications for termination of pregnancy

Indications for TOP	No of patient	%age
Congenital anomaly	14	28%
Missed abortion	10	20%
IUD	18	36%
Ruptured membranes	4	8%
PIH/Medical disorder	4	8%

Table - V:Distribution of congenital anomalies		
Congenital anomaly	No of patients	%Age
NTDs	10	66.66%
Hydrocephaly	3	20%
Fetal ascities	2	13.34%
Total	15	100%

Table - VI: Complications		
Complications	No of patients	%age
Nausea, vomiting	3	30%
Fever	3	30%
Hyper-stimulation of uterus	1	10%
Retained placenta	3	30%
Rupture uterus	-	-
Failed induction	-	-
DIC	-	-

Missed abortion and IUD accounted for a significant number of TOPs (Table IV). In some of these patients diagnosis was made late and fetus was retained for more than 3-4 weeks inside the uterus. Coagulation profile was done to all these patients. Only one patient had low serum fibrinogen level. However , no patient went into DIC in our study group.

Malformation of the CNS are the commonest congenital abnormalities and account for almost 50% of all major malformation[6]. In this study Neural Tube Defects (NTD) accounted for all congenital malformation and majority of these patients were unbooked and never had pre-pregnancy counseling.(Probably due to laser no of patients undergoing USG) Table V.

In majority of cases the parity was P2 to P4. The indication for TOP in this group was mostly IUD or missed abortion and less commonly congenital abnormality. The next common group was that of para I. (table II)

Three patients experienced minor side effects after PGF2α instillation such as nausea and vomiting and were treated symptomatically with metoclopramide.

Three patients had retained placenta, one of them had excessive hemorrhage which was controlled by manual removal of placenta under GA, blood transfusion and evacuation and curettage. PGF2α was used successfully in patients who had one or two caesarean section in the past. No case of rupture uterus was found. (Table III)

Table - VII:Induction expulsion interval		
Interval in hours	No of cases	%age
< 6 hours	11	22%
6 - 12 hours	23	46%
13 - 24 hours	14	28%
25 - 36 hours	1	2%
> 36 hours	1	2%

The rate of failed induction was zero. The induction abortion interval is defined as the interval between the administration of injection PGF2α and the expulsion of fetus. The mean induction abortion interval in this study was 10.75 hours which is longer if oxytocin alone is used. The mean hospital stay was 2.5 ±one day.
None of the patients required more than 24 hours for expulsion as compared to the use of syntocinone in high dilatation 2 - 3 days and sometimes even more

a expulsion is not achieved.

DISCUSSION

The aim of this study was to see the effectiveness of PGF2α in 2nd trimester termination of pregnancy and to find our induction expulsion interval in mid-trimester TOP.

The methods available for 2nd trimester TOP are dilatation and evacuation which carries the risk of hemorrhage, uterine perforation retention of products and infection (done by un-trained doctors and para medicals and T B As)

Moreover it takes out fetus as piecemeal so structural anomalies of fetus may be missed. Hysterectomy carries all the risk of a LSCS.

Among the medical methods for TOP, one is the instillation of PGF2α into the extra-amniotic space which is simple and convenient for both obstetrician and patients. Besides there is no need of analgesia or anaesthesia for the sprocedure.

Oxytocin infusion alone is insufficient for TOP in mid trimester as the uterus is not sensitive to oxytocin. However when it was used in combination with extra-amniotic PFG2αthe results were excellent. Extra-amniotic PFG2α shortens the induction expulsion interval and is more effective than oxytocin infusion alone. The mean induction expulsion interval in this study was 10.75 hours. The results were comparable to the study which was conducted at department fo obstetric and gynaecology Ihllel Japfe Medical Centre Hderadsrael .

Another study was conducted at Department of Obstetrics and Gynaecology Queen Mary Hospital Hong Kong in which a comparison of mifepristone with laminaria tent was made to see the shorter induction to abortion interval. In both groups gemeprost instead of PGF2α was used after prior administration of mifepristone and laminariatent. The mean induction expulsion interval with gameprost after mifepristone is likely to be less than 10 hours[8] Mifepristone is an expensive drug and is not available in Pakistan. The use of extra amniotic PGF2α is free of side effects like perforation of Cervix and patient do not have to wait for a long time before TOP.

In one study serious complications with extra-amniotic PGF2α in mid-trimester TOP were noted. The study was conducted at department of obstetrics and gynaecology, University of Witwatersrand Johannesburg. In this study, 319 patients were selected for TOP. Among them 3 patients required hysterectomy, one developed a large tear of posterior cervix and one died suddenly during the procedure[9].

These results were totally different from our study because in our study no patient required hysterectomy , no case of cervical tear found and none died of procedure. Moreover in our study no case of uterine rupture was found although we used PGF2α in patients with one or two previous LSCS caesarean sections in the past.

We have found PGF2α a safe, effective and convenient method for 2nd trimester TOP in our study. The side effects were minimal. The hospital stay is short and return to daily activities is quicker. The disadvantage of the method is the possibility of increased risk of infection associated with insertion of a catheter into the uterine cavity which may be minimized by passing catheter under aspectic measures and by using prophylactic antibiotics in all the patients.

CONCLUSIONS

It is concluded from this study that;

1. Extra-amniotic PGF2α is very effective in shortening the induction- abortion interval in mid trimester TOP.
2. It is safe, convenient method.
3. No special preparation required for the procedure.
4. There was no need of anaesthesia for the procedure.
5. Side effects were minimal.
6. Success rate was 100%. (too short a no of patients probably).

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