

Termination of Pregnancy by Single Large Dose Injection of Prostaglandins E₂ and F₂ Transcervically into the Extra-Amniotic Space

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Summary

26 PATIENTS WITH gestations between 8 and 20 weeks were selected for termination of pregnancy by injection of large single doses of Prostaglandins E₂ and F₂ into the extra-amniotic space.

PGE₂ was used in 22 cases; 17 aborted. Of the 5 failures, 4 were not given larger doses because of the severity of side-effects (severe vomiting, headaches, rigors with high pyrexia and acute bronchospasm).

PGF₂ was used in 4 cases. 3 aborted after the 3rd dose of 20 mg. 1 case failed to abort after the third dose of 20 mg. Side-effects were noted in 3 cases.

All the abortions were incomplete.

Introduction

The use of intermittent small doses of prostaglandins E₂ and F₂ injected through a catheter inserted into the extra-amniotic space between the fetal membranes and uterine wall to terminate early pregnancies has been reported by Embrey and Hiller¹. While this method appears to be quite successful, it has the disadvantages of a high risk of infection because of the length of time the catheter remains within the uterus², the tediousness of repeated injections, and the possibility of the catheter slipping out of the uterus.

In an attempt to overcome these disadvantages, single large doses of PGE₂ or PGF₂ were used in first and second trimester pregnancies.

Materials and Method:

Twenty-six patients, whose pregnancies ranged from 8 weeks gestation to 20 weeks and whose re-

quests for termination of pregnancy were approved by the Pregnancy Termination Board of the Ministry of Health, Singapore, were selected for the trial in the University Department of Kandang Kerbau Hospital in 1972. All the patients were fit and had no evidence of renal, cardiovascular or hepatic disease. Under aseptic conditions, with the patient in the lithotomy position, a small polyethylene catheter or Ryles tube was then passed into the extra-amniotic space through the cervical os, to a depth of about 6 to 16 cm depending on the uterine size. The aim was to place the tip of the catheter at the uterine fundus. Aspiration was performed prior to the instillation of prostaglandins to prevent accidental intravenous injection.

The prostaglandins (dissolved in 0.5 ml of absolute alcohol and diluted with 4.5 ml of sterile water) was injected slowly into the extra-amniotic space, followed by 250 mg of Ampicillin dissolved in 2.5 c.c. water. The catheter or Ryles tube was then removed and any side effects were noted. The patient was kept under close observation. Hourly pulse and blood pressure recordings, 4 hourly temperature charts and fluid balance charts were kept.

Twenty-four hours later the procedure was repeated with double the initial dose of prostaglandins if there were no signs of abortion. After a further 24 hours, if abortion did not occur the procedure was again repeated with an increased dose of prostaglandins. If the patient still had not aborted 24 hours after the third injection, the procedure was recorded as a failure and the pregnancy terminated by other methods. When abortion occurred a curettage of the uterine cavity was performed routinely and the curettings sent for histological report.

TERMINATION OF PREGNANCY BY SINGLE LARGE DOSE INJECTION

 Table I
 PGE₂

Case No.	Nationality	Age	Parity	Gestation (weeks)	No. 1	Of 2	Injections 3	Result	Last Injection-Abortion Interval	Side-Effects
1	Chinese	42	6	12	2.5 mg			Successful	7½ hrs.	Nil
2	Indian	18	0	14	2.5 mg	5 mg		„	7 „	Pyrexia
3	Malay	18	1	10	2.5 mg			„	16½ „	Nil
4	Chinese	25	2	12	2.5 mg	5 mg		„	6½ „	Pyrexia, Diarrhoea
5	Chinese	39	9	12	2.5 mg	5 mg		„	6 „	Pyrexia, Abd. pain (severe)
6	Chinese	31	5	12	2.5 mg	5 mg		„	8	Nil
7	Indian	29	4	12	2.5 mg			„	5	Pyrexia, Severe abd. pain
8	Chinese	28	6	12	2.5 mg			„	13	Pyrexia, Diarrhoea Bronchospasm
9	Malay	26	3	10	2.5 mg			„	19	Nil
10	Indian	37	5	14	2.5 mg			„	3	Nil
11	Chinese	26	4	14	2.5 mg	5 mg	10 mg	„	28	Nil
12	Chinese	33	4	14	2.5 mg			„	7	Abd. pains (severe)
13	Chinese	26	5	10	2.5 mg			„	21	Nausea, vomiting
14	Chinese	28	6	12	2.5 mg			„	13	Pyrexia diarrhoea Bronchospasm
15	Chinese	36	7	14	2.5 mg			„	5	Nil
16	Malay	25	4	8	2.5 mg			„	20	Nil
17	Chinese	32	2	12	2.5 mg			„	5	Nil
18	Chinese	32	5	10	2.5 mg			Abandoned	—	Pyrexia, severe abd. pain
19	Chinese	36	9	16	2.5 mg	5 mg		Abandoned	—	Nausea, copious Vomiting
20	Malay	22	3	20	2.5 mg	5 mg		Abandoned	—	Nausea, vomiting headaches, rigors, pyrexia.
21	Indian	32	3	14	2.5 mg	5 mg		Abandoned	—	Vomiting, diarrhoea Abdo. pains.
22	Chinese	31	3	14	2.5 mg	5 mg	10 mg	Failed	—	Nil

1st Injection 2.5 mg

2nd Injection 5 mg

3rd Injection 10 mg

PGE₂ was used in 22 cases. 17 aborted. Of these 4 cases required 5 mg. and 1 case 10 mg. Of the 5 failures, larger doses were not given in 4 be-

cause of the severity side effects. 1 case failed to abort despite the 3rd dose of 10 mg.

Side-effects occurred in 12 out of 22 cases. These consisted of Pyrexia (transient up to 102°F all subsided with 24 hours without any treatment other than the initial Ampicillin given together with the Prostaglandins), nausea, vomiting, diarrhoea, throbbing headaches, severe lower abdominal pains which ceased on abortion, and acute, severe bronchospasm which occurred in 2 cases. (Aminophylline was given in both to relieve the bronchospasm).

All the abortions were incomplete.

Conclusion:

Although 77% of the cases aborted, the high incidence of side-effects and the fact that all the abortions were incomplete, make this method of administration of Prostaglandins unsafe unless a new generation of prostaglandins with fewer side-effects is used.

References

1. Embrey M.P., and Hillier, K., Brit. Med. Journal 13.3.71 Pg. 588-90.
2. Roberts, G., R. Cassie, Turnbull A.C., Journal Obstet & Gynec of Brit. Commonwealth Vol. 78 No. 9 pg. 834. 1971.

Table II
PGF₂

Case No.	Nationality	Age	Pzrity	Gestation (weeks)	No. 1	Of 2	Injections 3	Result	Last Injection-Abortion Interval	Side Effects
1	Malay	30	3	4	5	10	20 mg.	Successful	4 hrs.	Pyrexia, nausea, vomiting mild dyspnoea (lasted w minutes)
2	Chinese	39	2	10	5	10	20 mg.	Successful	4 hrs.	Vomiting
3	Chinese	40	8	14	5	10	20 mg.	Successful	16	Nil
4	Chinese	36	2	14	5	10	20 mg.	Failed	—	Vomiting, Diarrhoea, Mild Dyspnoea (subsided after 3 min.)

1st injection 5 mg.
2nd injection 10 mg.
3rd injection 20 mg.

PGF was used in 4 cases of which 3 aborted after the third dose of 20 mg. Side-effects occurred in 3 cases and were severe. All the abortions were incomplete.