INDUCTION OF ABORTION IN THE SECOND TRIMESTER OF PREGNANCY BY INTRAMUSCULAR 15-METHYL PROSTAGLANDIN $F_{2\alpha}$ (PROSTIN 15M)

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SUMMARY

40 patients, pregnant clinically from 12 to 24 weeks in whom pregnancy termination for medical or medicosocial reasons was indicated, were given 250 μg Prostin 15M (15 methyl prostaglandin $F_{2\alpha}$, Upjohn) intramuscularly every three hours in total dose from 500 μg to 3000 μg.

The Committee for Medical Ethics of the Committee for Medical and Social Security of SRS approved the study to be performed at the University Gynecological Hospital of Ljubljana using the drug and following the protocol of Upjohn (Tehnoservis).

36 patients (90%) aborted within 48 hours after the first injection (mean interval was 15.43 hours). In three out of 40 patients (7.5%) the abortion was complete, in 34 (85.0%) it was incomplete. In two patients, dilatation of cervical canal was complete, but the expected abortion did not take place. One patient aborted in 52 hours and 10 minutes. Only in a single case induction of abortion was completely unsuccessful.

The drug is considered effective for induction of abortion in the second trimester of pregnancy.

INTRODUCTION

At the University Gynecological Hospital of Ljubljana, prostaglandins for pregnancy termination (preoperative cervical dilatation, induction of abortion in the first and second trimester of pregnancy and induction of labour) have been used since 1969 ([1-6]). The world-wide studies of World Health Organisation, of which some of our studies form a part, for termination of second trimester pregnancy ([7]) showed that induction–abortion interval is shorter with prostaglandins than with hypertonic saline, but that side effects are more frequent. Use of prostaglandin analogues, which act more specifically on the uterus and have a more prolonged action with less pronounced side effects is recommended.

40 patients were given Prostin 15 M which together with the protocol was obtained from Upjohn (Tehnoservis).

PATIENTS AND METHODS

The study was approved by the Committee for Medical Ethics of the Committee for Medical and Social Security of SRS. To all patients abortion was legally permitted by the Board for Pregnancy Termination.

Patients with known contraindications for prostaglandin use were not included in the study.

All patients took part in the study voluntarily and consented to the procedure in writing after it was explained to them. Before the attempted induction, every patient was clinically examined and basic laboratory data were obtained from her blood and urine samples.

During the Prostin 15M administration, vital signs (arterial blood pressure, body temperature, respiration and pulse rates) were recorded every two hours and bleeding, rupture of membranes, contractions and side effects were recorded whenever they occurred.

Induction of abortion was considered successfull if expulsion of fetus took place within 48 hours after the first injection. Curettage was performed in all patients; the material obtained was only macroscopically examined. The evaluation of the completeness of abortion was in this way a matter of physician's judgement.

Patients were 18 to 43 years old, 12 to 24 weeks (clinically) pregnant. They were given Prostin 15M intramuscularly in 250 μg doses

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every three hours or in longer intervals if the effect of the preceding dose has not vaned yet.

The patients were given from 2 to 12 injections (mean 5.6) i.e. 500 to 3000 µg (mean 1406 µg). Half an hour before the first injection 2.5 to 10 mg of diphenoxylate chloride with atropine (Reasec®) were applied in order to prevent diarrhea. Pain was relieved with 50 to 100 mg of pethidine (Dolantin®), 20 mg of scopolamine butyl bromide (Buscopan®) and/or 20 mg of scopolamine butyl bromide with metamisole (Buscopan compositum®).

RESULTS

In 48 hours 36 patients (90%) aborted (one patient aborted in 52 hours 10 minutes). Induction–abortion interval was from 6 hours to 42 hours 30 minutes (mean 15.43 hours). In three cases (7.5%) abortion was complete, in 34 patients (85%) it was incomplete. In two patients cervical canal was dilated enough after prostaglandin treatment so that instrumental evacuation of the uterus did not present any problem. In one patient the induction of abortion was completely unsuccessful. In only one patient loss of blood exceeded 100 ml nevertheless blood replacement was not necessary. In four patients (10%) body temperature surpassed 37.5 °C (the highest temperature recorded was 37.7 °C). In five patients (12.5%) arterial blood pressure was elevated from time to time over 18.7/12.0 kPa but not over 21.3/12.7 kPa and 17.3/14.7 kPa respectively. In one patient temporary heavy breathing was observed which subsided without treatment. 34 patients (85%) had one or more episodes of diarrhea and 26 patients (65%) vomited. 27 patients (67.5%) had nausea, 4 (10%) had flush and 1 woman had periocular oedema, 1 had periocular erythema. No so-called serious complications were observed.

DISCUSSION

Prostin 15 M given intramuscularly in several equal doses was shown to be successful for induction of abortion during the second trimester of pregnancy.

Frequency of side effects is not abnormally high neither is their severity; but they are unpleasant for the patients and their frequency must therefore be reduced by the application of appropriate drugs (antiemetics, antidiarrhoics and analgesics). Mode of application of Prostin 15 M is convenient for the patient and for the medical staff. By intramuscular application the risks of more invasive modes of application (e.g. intraamniotic or extraamniotic route) are avoided. Prostin 15 M is absorbed rapidly when given intramuscularly; its effect is of appropriate duration. The interval between applications (or e.v. dose) can be modified with respect to the duration of effect of the preceding injection.

In four patients induction was not successful if judged by the standards of the protocol. One patient aborted in 52 hours 10 minutes. This was a case of intrauterine fetal death in the 27th week of gestation; the size of the uterus corresponded to the 24th gestational week. Time interval between successive applications of Prostin 15 M was longer than three hours because of hypertonus of the uterus. Regarding the inductive effect of 15-methyl prostaglandin $F_{2\alpha}$, this can also be said to be a success.

In two patients, dilatation of the cervical canal only took place. Both pregnancies were of relatively short duration (12 and 14 weeks, respectively) and this might be the reason for failure. Nevertheless, instrumental evacuation posed no problem because of the Prostin 15 M induced dilatation.

One induction of abortion was completely unsuccessful. Unaware of her pregnancy, the patient continued with hormonal contraception. Induction of abortion in women who have, while pregnant, been taking drugs known to interfere with cellular mechanism of prostaglandin action, should not be attempted by prostaglandin, but by alternate means.

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