Comment

Use of porcine factor VIII concentrates has previously been severely restricted because of allergic reactions and thrombocytopenia.[3] Hyate:C is a highly purified preparation of porcine factor VIII that contains only trace amounts of non-factor VIII protein, thus reducing side effects.[3] Unfortunately, the severe reaction after its use in our patient suggests that, as with other porcine products, allergic reactions that might limit its usefulness may occur. A small test dose should therefore be administered before infusion of therapeutic doses to identify more clearly patients who might be at risk of developing such problems.

We thank Dr P A M Bailey, consultant haematologist, and Dr J A Cameron, consultant physician, of Dumfries and Galloway Royal Infirmary, who referred this patient to our department.

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(*Accepted 3 March 1980*)

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Prostaglandins in gel for mid-trimester abortion: a method to minimise nursing involvement

Prostaglandin administered by intermittent[1] or continuous[2] administration into the extra-amniotic space induces abortion. Sometimes, however, administration is delegated to nurses, which has been criticised. Craft *et al*[3] showed a dose-response curve for prostaglandin E_2 (PGE_2) in gel with optimal effect when 3·5 mg was used, and advised repeated six-hourly injections rather than intravenous oxytocin if abortion did not occur. We report using this regimen as routine in midtrimester abortion.

Patients, methods, and results

One hundred and ten patients were admitted for termination of pregnancy in the midtrimester. All were informed of the potential risks and consented to the procedure. Ages ranged from 14 to 43 (mean 24): gestational age 12-22 weeks (mean 15·7), and parity 0-5.

A 4% solution of methylhydroxyethyl powder (Tylose MH 300p, Hoechst) was prepared with isotonic saline and autoclaved and PGE_2 3·5 mg in isotonic saline added aseptically. Without anaesthesia a 12 French gauge suction catheter was inserted about 5 cm through the cervical os, and the 8·75 ml gel injected slowly. The catheter was then flushed through with a further 5 ml sterile Tylose gel and removed. If abortion had not occurred or was not imminent at six hours a further 3·5 mg PGE_2 was given and repeated six-hourly until abortion occurred. All patients underwent surgical evacuation of the uterus soon after abortion, even if the placenta was thought to have been delivered completely. Analgesia was by intramuscular injection of pethidine or papaveretum, and epidural anaesthetic was offered.

All patients aborted. Mean time to abortion was 10·7 hours (range 3·3-26·3), with most patients requiring only one or two insertions of PGE_2 gel (table). There was no relation between maternal age or length of gestation and the number of doses. Mean time to abortion of women having had a previous full-term pregnancy was generally shorter (mean 9·1 ± SEM 1·5 hours; n = 19) than for those having their first pregnancy terminated (mean 11·9 ± SEM 1·5 hours; n = 55). The difference, however, was not significant. There was also no difference in time to abortion between primigravidae and women having undergone abortion previously.

Relation of maternal age and gestational length to number of doses of PGE_2 gel required for abortion

No of doses PGE_2 gel	No (%) of patients	Mean ± SEM age (years)	Mean ± SEM gestation (weeks)
1	34 (30·9)	25·4 ± 4·4	15·4 ± 2·1
2	64 (58·2)	23·2 ± 2·9	15·5 ± 1·9
3	9 (8·2)	25·2 ± 8·4	17·6 ± 5·9
4	3 (2·7)	22·7 ± 13·1	16·8 ± 9·7

Eighty-five patients (77%) required one or more doses of pethidine or papaveretum for analgesia. Continuous epidural anaesthesia was used in nine (8%), and 16 (14%) requested no analgesia.

The most common side effects were gastrointestinal, 24 patients (21%) experiencing nausea or vomiting, and two diarrhoea. Some patients experienced very painful uterine contractions within minutes of PGE_2 gel insertion, due to the tip of the catheter being introduced too far into the uterus: when the tip was introduced only 5 cm through the cervix this side effect was rare. There were no major complications: no patient suffered cervical laceration or cervicovaginal fistulae; three were given blood transfusions because of blood loss (maximum 1500 ml); and three prophylactic transfusions before the abortion because of sickle-cell disease. Eight patients (7%) developed a temperature over 38 C, four were given antibiotics for suspected infection, and five prophylactically. Two patients were readmitted two weeks after termination and required antibiotics.

Comment

The greater complication rate of termination in the second trimester means that many methods have been employed to find the safest and most efficient technique and minimise nurses' participation.

Midtrimester abortion by dilatation and evacuation has been advocated,[4] and minimises discomfort and nursing care. It requires more surgical expertise than instillation of gel through the cervix, however, and may not be acceptable in hospitals with doctors at varying stages of training. There are also no long-term data on future reproduction.

We believe that the method using six-hourly injections of PGE_2 in gel, with withdrawal of the cervical catheter, has several advantages. It is safe and efficient, with the doctor introducing all of the PGE_2 at the time of injection, and requires no administration of abortifacient drugs, either extra-amniotically or intravenously, by nurses. When abortion has been delayed beyond the 20th week signs of fetal activity may occur when extra-amniotic techniques are used. After 20 weeks we reverted to using the intra-amniotic method of urea combined with PGE_2,[5] accepting a higher incidence of cervical trauma and the rare possibility of a coagulation disorder since this method results in fetal death, thereby minimising unnecessary distress to both patients and nursing attendants.

We have no data on the subsequent obstetric performance of patients who have undergone midtrimester abortion by the method described, and there is a need for prospective studies.

We thank the staff of the pharmacy at the Royal Free Hospital for preparation of the prostaglandin gel, the nursing staff of the gynaecological wards for their assistance, and Upjohn Limited for their continued support.

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(*Accepted 13 March 1981*)

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