TREATMENT OF ECTOPIC PREGNANCY WITH PROSTAGLANDIN E_2

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Summary: In 10 patients the treatment of ectopic pregnancy consisted of the use of 0.75 to 2.25 mg of prostaglandin E_2 (Prostin E_2, 1 mg/ml, Upjohn). In 8 patients PGE_2 was injected in the tubal wall under laparoscopic control, in 2 under the control of vaginal ultrasound probe. The effect of the treatment was controlled by serial determinations of serum beta HCG. In 8 patients with PGE_2 injected laparoscopically, negativization of beta HCG took place in 14 ± 8 days which meant successful treatment of ectopic pregnancy. For persistently elevated beta HCG concentrations in both patients with PGE_2 applied under the ultrasound control, laparotomy had to be performed.

Key words: ectopic pregnancy; prostaglandin E_2.

INTRODUCTION

Ectopic pregnancy has always been one of the most interesting problems in gynecology. High maternal mortality, caused by ectopic pregnancy, decreased significantly as soon as surgical removal of the affected tube became the method of choice ([1]). As the treatment of tubal pregnancy aimed above all at the prevention of both morbidity and mortality, tubectomy remained a dominant surgical method for a long time ([2, 3, 4]), and the preservation of woman's fertile ability was considered only secondary importance. Contemporary diagnostic procedures like ultrasound and serum beta HCG determinations have enable the detection of early, intact ectopic pregnancy which has also influenced the method of treatment.

Microsurgical treatment of tubal pregnancy has proved very successful in women who have wanted to preserve fertile ability ([5, 6]). The development of laparoscopic surgery has, with the use of monopolar electric current and, above all, with laser, allowed the even more conservative approach which has started to replace open surgery. Ever since Tanaka ([7]) published the first successful medical treatment of tubal pregnancy with methotrexate the interest in such treatment has grown. In the latest literature reports can be found of successful use of antiprogestin Ru 486 ([8]), but prostaglandin PGF_2 alpha can be claimed even more efficient ([9]).

At the University Department of Obstetrics and Gynecology we used natural prostaglandin PGE_2 (Prostin E_2) whose effects in the treatment of ectopic pregnancy have not yet been discovered. This is the report of our experience and first results.

PATIENTS AND METHODS

In the period from November 1988 to March 1989 PGE_2 was used in 10 patients for the treatment of ectopic pregnancy. 8 patients had had one or more laparatomies before for microsurgical treatment of infertility or had prior ectopic pregnancies, 1 patient already had two children and did not insist on preserving her fertility, whereas in 1, primary infertility was diagnosed. Since in this patient the preservation of the tube with microsurgical technique would not have been possible, we decided upon the application of PGE_2 and postponed the infertility operation to a later period. The diagnosis of ectopic pregnancy was made on the basis of ultrasound and serum beta HCG concentration.

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Vaginal ultrasound probe was used: a gestational sac with a live embryo was found in 4 patients, in 2 patients gestational sacs with irregular echoes of the embryo, in 2, empty gestational sacs, and in 2 an empty uterus was seen. All the patients had positive serum beta HCG.

Beta HCG determinations performed within 2 days showed in all patients values which were increasing more slowly than in normal intrauterine pregnancy. On the day of the PGE_2 application beta HCG values were from 125 to 2200 m IU/ml. In 8 patients laparoscopy was performed under general anaesthesia.

tolerated by the patients this treatment was later dropped.

The effect of the treatment was controlled by serial determination of serum beta HCG on days one, two and three after the application, and every seventh day until the negative value was finally reached.

RESULTS

In the 8 patients in whom PGE_2 was injected under laparoscopic control beta

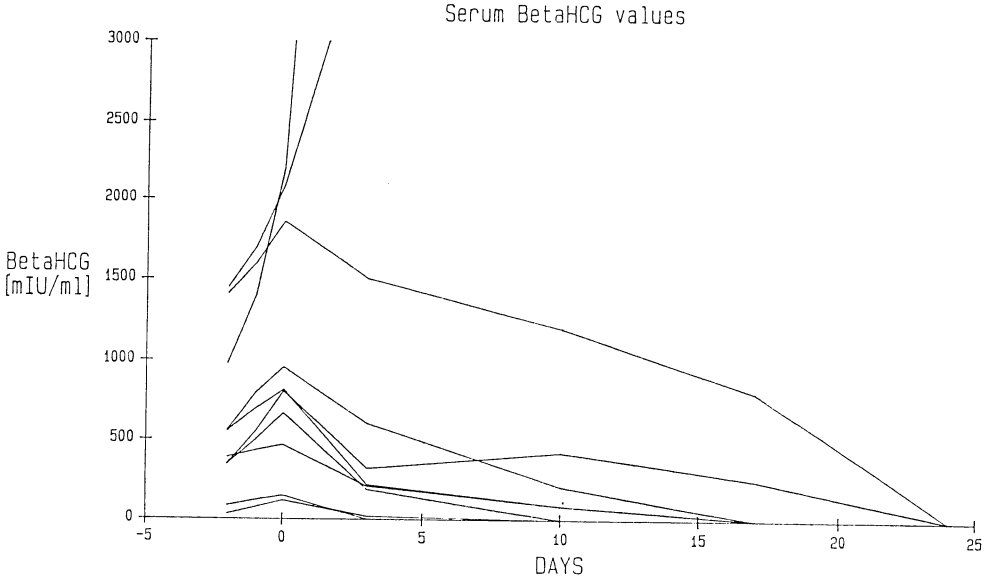

Fig. 1. — Beta HCG values before and after PGE_2 application.

In all of the cases intact ectopic pregnancy was diagnosed: in 4 patients in the ampullar part of the tube, and in 4 in the isthmo-ampullar part. The size of the ectopic pregnancy was 2 to 5 cm. Under laparoscopic control 0.75 to 2.25 mg PGE_2 (from 1 to 3 ml Prostin E_2) diluted with 2 to 3 ml of physiological salt solution was injected into the tubal wall. In 2 patients PGE_2 was injected under vaginal ultrasound probe control. As a complement to the local treatment, the first four patients were injected with 1 ml 15 methyl-PGF_2 alpha (Carboprost 15 M, Ujohn) intramuscularly every 6 hours for the first 3 postprocedural days. Because the side effects (vomiting, diarrhoea) were not well

HCG values began to decrease and on the second or third day after the application the patients were discharged. Beta HCG concentration decrease was controlled at out-patients clinic every seven days.

Average time from local PGE_2 application to beta HCG negativization was 14 ± 8 days, the shortest being 2 days and the longest 24 days (Fig. 1).

We noticed that the rapidity of the concentration decrease depended upon beta HCG value on the day of the appli-

cation, the lower the initial value, the quicker the decrease. The rapidity of beta HCG negativization was also influenced by the localization of ectopic pregnancy: negative beta HCG value was more quickly achieved after PGE_2 administration in ampullar than in isthmo-ampullar pregnancy.

Last but not least of the important factors was also the PGE_2 dose. We found that the dose of 2.25 mg PGE_2 was more efficient than the one of 0.75 mg. As the group of 10 patients is far too small for a statistical analysis, further research is necessary to either confirm or reject our preliminary findings. What should above all be established is the smallest still effective PGE_2 dose.

In both patients in whom PGE_2 was applied under vaginal ultrasound probe control beta HCG values did not fall after the application and laparotomy had to be performed. Salpingectomy was performed in one, and salpingotomy in the other patient.

Besides side effects, due to intramuscular administration of 15 methyl PGF_2 alpha given to the first four patients and spasms in the affected tube, there were no further complications encountered.

DISCUSSION

In the treatment of ectopic pregnancy the conservative approach has been gaining in importance, laparoscopic surgery above all. Surgery in which laser surgery should be underlined, demands a considerable degree of experience on the part of the surgeon, and expensive equipment. That is why it is all too evident that interest in all the possibilities of medical treatment of ectopic pregnancy has grown.

Methotrexate has proved to be a very efficient drug causing resorption of trophoblast ([10, 11]) and preserving tubal patency. In spite of these characteristics the use of methotrexate in the treatment of ectopic pregnancy remains dubious, not only because of the side effects, characteristics of cytostatics, but also because the possible long term teratogenous effects are still unknown to us. Antiprogestin Ru 486 is inefficient given alone, but it eases laparoscopic evacuation of ectopic pregnancy as it causes the death of an embryo ([8]). The treatment of ectopic pregnancy with prostaglandin PGF_2 alpha has, on the contrary, proved very efficient ([12, 13]). Because of the danger of its side effects upon the cardiovascular system ([14]) we did not decide on using of the above mentioned prostaglandin, but on the natural PGE_2, in spite of laboratory test findings that PGE_2 has essentially less effect upon tubal ability for contractility, corpus luteum and tubal arteries ([15]). In contrast to these laboratoy findings, we found PGE_2 in clinical use to be a very efficient drug: the average time of the serum beta HCG concentration decrease is 14 ± 8 days, which equals the use of PGF_2 alpha ([13]). As PGE_2 is also used intravenously (e.g. for inducing labor) the passage of this prostaglandin to the blood is not dangerous.

Our patients did not have any side effects characteristic of prostaglandin application. Only on the day of the application did 9 patients start having spasms on the side of the affected tube.

The unsuccessful treatment of ectopic pregnancy in 2 patients to whom PGE_2 was applied under vaginal ultrasound probe control cannot be ascribed to PGE_2 inefficiency, as it was efficient in all 8 laparoscopic applications, nor to the ultrasound approach, as already Feichtinger ([16]) successfully applied methotrexate using this technique. We rather ascribe this unsuccessful treatment to technical failure.

All the Authors mentioned a report on good tubal patency after medical treatment of ectopic pregnancy, as well as on a high percentage of later intrauterine pregnancies. Because of the good result obtained by microsurgical treatment of ectopic pre-

gnancy in infertile women and the still nuclear PGE_2 effects, we decided on medical treatment only in patients for whom microsurgical operation was not indicated. We intend to check the patency of affected tubes with hysterosalpingography.

The data in existing literature ([11, 13]) report on a high percentage of patent tubes after the medical treatment of ectopic pregnancy, as well as on a high percentage in later intrauterine pregnacies. That is the main reason for our expecting similar results in the treatment with PGE_2 and for hoping it will help treat ectopic pregnancy successfully, also in subfertile women.

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SEX DURING PREPREGNANCY PERIOD. A STUDY OF 106 PLURIPAROUS WOMEN IN RELATION TO PARITY

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Summary: The Authors study the correlation between sexual activity and parity in 106 pluripraous Sicilian women divided into 3 groups with parity respectively of 1 (57 cases), 2 (29 cases), and ≥ 3 (20 cases). Sexual desire, frequency of coitus and orgasm, type of extracoital activity, preferred position during coitus, the partner who took the first initiative in sexual activity, and the contraceptional methods used were studied. The results show that in women of parity ≥ 3 there is a significantly lower frequency of very frequent coitus, higher frequency of extravaginal sexual activity, and that the male more frequently took the first initiative in sexual intercourse.

Key words: parity; sexuality; sexual behavior; coitus; orgasm.