Current trends in the treatment of ectopic pregnancy

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Summary: The authors discuss the most recent methods for the treatment of tubal pregnancy and offer their own experience as regards laparoscopic treatment of these pathologies.

Key words:

INTRODUCTION

The frequency of extra-uterine pregnancy varies from 1:80 to 1:200 pregnancies. Over the past fifteen to twenty years there has been a decided upward trend which has been attributed for the most part to:

a) greater risk of secondary PID, in conjunction with changes in sexual habits and, in some cases, to IVG and to the use of intrauterine contraceptives;

b) induced ovulation.

In 98-99% of cases extra-uterine pregnancy is located in the Fallopian tubes.

The treatment is classically surgical, and, in some cases, to IVG and to the performance of a salpingectomy, via a laparotomy, while conservative laparoscopic treatment is now preferred. In some recent selected cases, entirely or at least prevalently pharmaceutical treatments have been proposed.

It is inadvisable to resort to laparoscopic treatment in the following cases:

– cardiovascular diseases, rhythmic disturbances;

– incorrect alterations to the coagulative functions;

– serious haemoperitoneum which could accentuate the cardiorespiratory effects of pneumoperitoneum and the Trendelemburg position.

It is currently believed that the choice of destructive surgery should, in accordance with Bruhat [1] be limited to the following cases:

– voluminous tubal pregnancy (of over six centimetres or with tubal ruptures and evident haemoperitoneum and a state of shock);

– where the salpinx has previously undergone plastic surgery;

– where the salpinx has been the site of a previous pregnancy;

– where no further pregnancy is desired.

Laparoscopic surgery in any case guarantees less trauma and fower postoperative problems of the adherential type.

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SURGICAL TECHNIQUES

Laparoscopic surgery is performed according to the following patterns ([1, 2]):

– performance of the laparoscopy;

– repeated rinsing to remove blood, fluid, and/or coagulations in the peritoneal cavity;

– eventual pharmaceutical haemostasis via the injection of vasopressin into the mesosalpinx ([3]). This is not common practice as it could lead to mistaken diagnosis in the eventuality of bleeding in the implant area.

– linear salapingostomy on the antimeseneric side using a unipolar electrode;

– removal of the outer part of the trophoblast;

– checking of the haemostasis;

– non-suturing of the edges of the salpingostomy;

– anti-adherential prophylaxis (accurate rinsing of the peritoneum, using physiological solutions followed by maintenance of physiological solutions in the peritoneal cavity using cortisone).

In case of the presence of one of the contra-indicated conditions, a total or partial salpingectomy will be performed, still in laparoscopy, using the triple binder technique ([4]).

After having grasped the tube at the point of greatest circumference, the first Roeder binder is connected; then the portion of the tube containing the pregnancy is tied with the Roeder triple binder and the tube is amputated at a 90° angle, using hooked scissors. With an auxiliary spoon pincer the trophoblast is removed from the abdomen through the three-quarter sheath of 11 mm. After having thoroughly rinsed the small basin, the surface of the cut stomp is coagulated to prevent any adherence to the intestinal peritoneum.

Where a conservative operation is performed, a Beta-HCG dose of plasma is administered at a distance of 24 hours, and haematic samples are taken until the results prove negative.

MEDICAL TREATMENTS

Recently non-surgical treatments for ectopic pregnancy have been proposed, with the general or local administration of substances capable of determining elimination. The use of methotrexate in doses of 1 mg per kg of weight has been reported in association with the Citrovorum Factor. Stovall ([5]) presents a case study of 100 patients to whom methotrexate was administered on alternate days until the HCG level was reduced by 15% on two consecutive days. The treatment was unsuccessful in only 4 cases; 58 patients were then given a salpingography; 84.5% of them showed clear tubes; and of this group there were 37 successive pregnancies, 89% being intrauterine.

Another possible application of methotrexate, with fewer side effects in general, is that of a local injection using a laparoscopic guide. The dosage administered varies from the 25 mg to the 100 mg ([3-6]). Here, on the basis of the Beta serum levels, 7 patients received from two to four supplementary intramuscular doses of methotrexate (50 mg).

All studies on the use of methotrexate both systematically and locally report an almost total absence of relevant side effects ([3, 5, 6]).

Another method of treatment for initial tubal pregnancy consists in the local injection via a laparoscope of prostaglandin F2a. Lindblom ([7]) reports a study of 26 patients with ampullary pregnancy of less than 2 cm and HCG values of not more than 1000 u/l. Between 1 and 3 mg of Pg F2a or 150 microgrammes of 15 - methyl - Pg F2a were administered into the site of the pregnancy.

In 24 patients the first dose was enough to obtain the elimination of the ectopic pregnancy.

MATERIALS AND METHODS

Since 1990, the 3rd division of the Obstetrics and Gynaecological Clinic of "La Sapienza" University of Rome has treated 7 patients affected by tubal pregnancy and who demonstrated the requisites for laparoscopic treatment.

Their ages ranged from 20 to 35 years; 5 had negative anamnesis for extrauterine pregnancy, while 2 had already undergone a salpingectomy for the same complaint, with a laparoscopic intervention. The site of the pregnancy was in 5 cases in the isthmic portion and in 2, in the ampullary tract.

The technique requires a thorough rinsing of the peritoneal cavity and the identification of the location of the pregnancy. This was followed in two cases by a salpingectomy using the triple binder method, and in all other cases by a linear salapingectomy using a unipolar electrode on the antimesenteric side of the salpinx, and removal of the trophoblast. Once haemostasis was assured, suturation of the tubal breach was not carried out, but instead the operation was concluded with a thorough rinsing of the peritoneal cavity, in which 100 cc of physiological solution with 8 mg cortisone and fibrinolitics were then deposited. All patients undergoing a conservative operation were given repeated doses of Beta-HCG after 48 hours and then every 10 days until the results proved negative (in general after 30 days).

Only 5 patients were traced for follow-up treatment; and of these 4 had undergone a conservative operation.

The hysterosalpingography check performed at least 6 months after the operation demonstrated in three cases a clear passage of the means of contrast through the operated salpinx: of special note is that one of these patients had had a previous controlateral salapingectomy.

DISCUSSION

New directions in the treatment of tubal pregnancy require, as mentioned above, less aggressive surgery than in the past. The use of a laparoscope in any case guarantees a greater respect for the peritoneal cavity and fewer adherential formations. Also, where it is possible to perform a conservative operation, this can maintain a valid functionality of the tube. This is of primary importance in cases where the patient has already undergone a controlateral salapingectomy.

As regards results, Bruhat [1] states that of 149 women who had undergone a conservative laparoscopic operation, 65.1% later showed an intrauterine pregnancy. In particular, of 80 patients who had no record either of sterility or of tubal pregnancy, 85% then produced an intrauterine pregnancy, whilst the percentage of relapses was 12.5%. Also, in 27 cases of extrauterine pregnancy on the only salpinx treated with conservative surgery, the rate of intrauterine pregnancy was 40.7%, while the rate of relapse was 22.2%.

In addition, as described above, attempts are being made to codify medical treatment of initial extrauterine pregnancy. The results so far reported, both using systematic and local treatment, show a success rate between 80% and 96% with a percentage of later intrauterine pregnancy of around 80%.

The possibility of using locally administered pharmaceuticals, not via a laparoscope but transvaginally under an ecographic guide, is currently being studied. The methodology is similar to that used for the removal of eggs in the technique of assisted fertilization.

This study refers exclusively to surgical treatment.

Currently the preferred method is via a laparoscope and if possible, conservative. This assures the best results both from a surgical and reproductive point of view where the patient desires children. It also reduces the length of confinement and thus permits significant savings on the cost of the treatment.

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