Transabdominal intralesional injection of Methotrexate in two angular live ectopic pregnancies

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Summary

The transvaginal injection of Methotrexate in the treatment of live ectopic pregnancy has been reported. The Authors report two cases of angular live ectopic pregnancies treated successfully with transabdominal injection of Methotrexate.

KEY WORDS: Methotrexate, ectopic pregnancy.

Introduction

The ultrasound-guided transvaginal injection of Methotrexate (MTX) has been often described as nonsurgical treatment of early, ruptured tubal ectopic pregnancy. The local injection using an automated puncture device provides the advantage of reducing the systemically-absorbed dose of MTX (1). However, while tubal or cervical ectopic pregnancies are easily accessible via the transvaginal route, more distant ectopic implants, i.e. angular implants, are hardly approachable through the transvaginal injection. Here we describe the transabdominal MTX injection directly into the gestational sac in two cases of angular ectopic pregnancy, under ultrasound guidance. This approach was chosen because the gestational sacs were too distant from the bottom of the vagina and the needle could not reach the ectopic implants.

Case reports

Case 1: a 32 year-old woman, nullipara, at 7 week and 4 days of amenorrhea. A transvaginal ultrasound showed a gestational sac of 22×22 mm of diameter into the left corner of the uterus. The embryo measured 3 mm CRL with a beating heart and the value of beta-hCG raised from 7225 to 11080 mUI/ml during 24 hours before the treatment. The gestational sac was localized by a transabdominal transducer coupled to an automated puncture device. Twenty mg of MTX in 10 ml of saline were injected into the sac with a 22-Gauge needle. During injection, fetal cardiac activity ceased immediately. The puncture site was observed sonographically for 10 min to detect early bleedings and the patient was clinically monitored for the following 3 hours. The whole procedure did not require hospitalisation. Beta-hCG values slowly decreased from the first day after MTX injection (Figure 1). After 7 days, beta-hCG level was 6900 mUI/mL. An echographic exam showed a minimal increase in size of the gestational sac during the first week (from 22×22 mm to 28×26 mm). After 2 months, beta-hCG levels were undetectable. Three months later, gestational sac measured 17×15 mm and it was undetectable by ultrasound 6 months later.

![Figure 1 - Beta-hGC levels in patients 1 and 2 following transabdominal injection of MTX.](image.png)
Case 2: a 28 year-old woman, nullipara, at 8 weeks
and 2 days of amenorrhea. A transvaginal ultrasound
showed a gestational sac into the right corner of the
uterus, sized 24×20mm. Within the sac, a living em-
bryo of 4 mm CRL was detectable. The starting value
of beta-hCG was 8215 mUI/ml. Following transabdom-
inal MTX injection, as described in Case 1, beta-hCG
levels decreased slowly, reaching 5345 mUI/mL one
week later (Figure 1). Gestational sac showed a para-
dox increase in size during the first week after treat-
ment, reaching a maximum diameter of 29×25 mm. Af-
after 6 months the gestational area was undetectable by
ultrasound. Patient conceived three months after the
disappearance of the ectopic sac and delivered at term.

Discussion

The local delivery of MTX by percutaneous injection is
not frequent but it is an effective procedure in the treat-
ment of tubal pregnancies (2). Nevertheless, the treat-
ment of angular ectopic pregnancies is more complex
due to the location of the ectopic gestational sac. Pre-
vious reports showed that conservative management
by transvaginal route is an effective and safe option for
some angular pregnancies (3, 4). In our experience,
two angular live pregnancies were not approachable
by the transvaginal route, because they were too far
from the vaginal fornices. Therefore we used a trans-
abdominal approach. Low dose MTX (20 mg) was suf-
ficient to interrupt ectopic pregnancy, although some
Authors report higher dose (5). We followed our pa-
tients until beta-hCG level became undetectable and
the gestational sac disappeared. The interval of obser-
vation of both parameters was particularly prolonged,
up to 6 months. Local injection of low-dose MTX in a
angular pregnancy appears effective in halting the ec-
topic trophoblast growth, with no need of the tradition-
al surgical approach. This may be explained by the
thickness of the myometrium that prevents early rup-
ture of interstitial pregnancy and facilitates the use of
conservative treatment. The advantages of this proce-
dure are the possibility to avoid both surgery and costs
related to hospitalization. Surgery itself can be associ-
ated with severe blood loss, perioperative morbidity,
reduction of the reproductive capacity. The disadvan-
tage of the local approach is the need of a prolonged
follow-up and the uncertain success of the treatment.

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