

# 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 non-surgical treatment of early, unruptured 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.

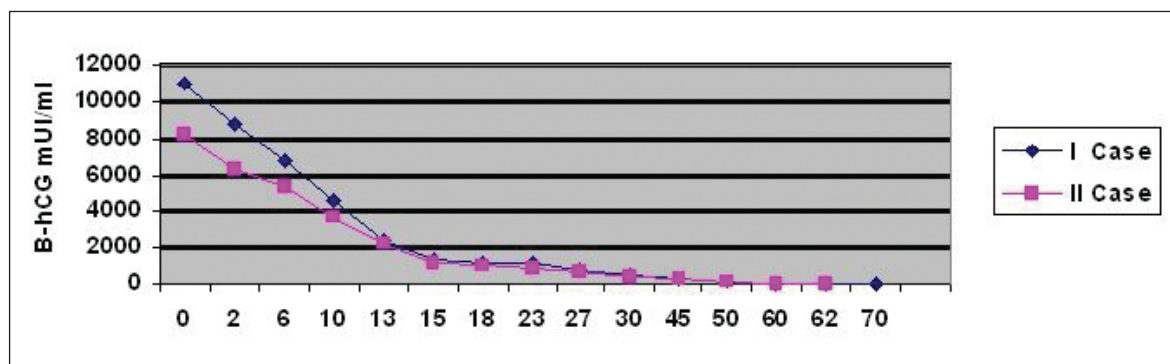


Figure 1 - Beta-hCG levels in patients 1 and 2 following transabdominal injection of MTX.

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 embryo of 4 mm CRL was detectable. The starting value of beta-hCG was 8215 mIU/ml. Following transabdominal MTX injection, as described in Case 1, beta-hCG levels decreased slowly, reaching 5345 mIU/mL one week later (Figure 1). Gestational sac showed a paradox increase in size during the first week after treatment, reaching a maximum diameter of 29×25 mm. 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 treatment of tubal pregnancies (2). Nevertheless, the treatment of angular ectopic pregnancies is more complex due to the location of the ectopic gestational sac. Previous 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 transabdominal approach. Low dose MTX (20 mg) was sufficient to interrupt ectopic pregnancy, although some Authors report higher dose (5). We followed our patients until beta-hCG level became undetectable and the gestational sac disappeared. The interval of observation 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 traditional surgical approach. This may be explained by the thickness of the myometrium that prevents early rupture of interstitial pregnancy and facilitates the use of conservative treatment. The advantages of this procedure are the possibility to avoid both surgery and costs related to hospitalization. Surgery itself can be associated with severe blood loss, perioperative morbidity, reduction of the reproductive capacity. The disadvantage of the local approach is the need of a prolonged follow-up and the uncertain success of the treatment.

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