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Management of uncomplicated interstitial pregnancy with systemic methotrexate and uterine artery embolization. Case report

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Summary

Systemic methotrexate and selective uterine artery embolization can be associated as an optimal management of uncomplicated interstitial ectopic pregnancy (IEP).

Key words: Interstitial pregnancy; Methotrexate; Embolization.

Introduction

Intestitial ectopic pregnancy (IEP) is a rare medical event associated with a high rate of complications, in the absence of accurate diagnosis and optimal treatment [1]. Uterine artery embolization, still experimental in this condition, was successfully used as an adjuvant to methotrexate in cervical and scar pregnancies [2] and recent limited data indicates a favourable outcome also for IEP [3].

Case Report

Written informed consent was obtained from the patient for publication of this case report and any accompanying images.

A 31-year-old woman with no obstetrical events and history of right salpingectomy for pyosalpinx, presented with nine weeks of amenorrhea, vaginal spotting, and a positive pregnancy test. The gynecological clinical examination was unremarkable and the transvaginal ultrasound evaluation revealed an empty uterine cavity, with a thin endometrium of 3 mm. Uncomplicated IEP was diagnosed with the important contribution of color Doppler and 3D investigations (Figures 1a1, 2, 3), that identified and a 2.0×2.8 cm vascularized gestational sac containing a yolk sac and no visible embryo, surrounded by an asymmetric myometrial mantle in the outer upper right margin of the uterine cavity, near the right uterine horn. The assessment of serum human chorionic gonadotropin (hCG) revealed 7,560 mIU/ml.

After counselling and written informed consent from the patient and in the absence of any contraindication, intramuscular systemic methotrexate 1.5 mg/kg was administered. On the third day, the authors noted alarming increasing serum hCG values and gestational sac dimensions. They decided to associate uterine artery embolization to decrease the probability of complications. Because of the important flow in the pregnancy area originating from the contralateral uterine arterial branches, bilateral uterine embolization was performed, followed by satisfactory devascularisation of the ectopic pregnancy (Figures 1b1, 2, 3). No complications were recorded. The serum hCG level decreased to 1,705 mIU/ml on the fourth day after embolization and 179.6 mIU/ml on day 7, when the patient was discharged in good condition. One week later, the hCG level was almost negative (5.9 mIU/ml, cut-off 5.3).

Spontaneous menstruation occurred four weeks after the procedure. Serum hCG level was 0.5 mIU/ml and although the image of a collapsed and echogenic gestational sac persisted, as pointed out in previous communications [2], the asymmetry of the uterine fundus regressed and color Doppler mapping of the uterine board and fundus showed revascularization, but did not detect trophoblastic flow Figures 1c1, 2, 3).

The authors underline the role of the three-dimensional sonography as an excellent imaging modality for a precise diagnosis this challenging condition, frequently missed by clinical examination and conventional ultrasound because of its atypical location. More important, this report is one of the rare cases of IEP managed by angiographic uterine artery embolization in addition to systemic methotrexate [4] because of the lack of response to methotrexate therapy, in an attempt to prevent pregnancy complications. At the moment, the patient has a normal ongoing pregnancy.

Conclusion

The prompt serologic and sonographic involution following uterine embolization underlines the potential utility of this technique in IEP management, especially after initial unremarkable response to methotrexate administration.

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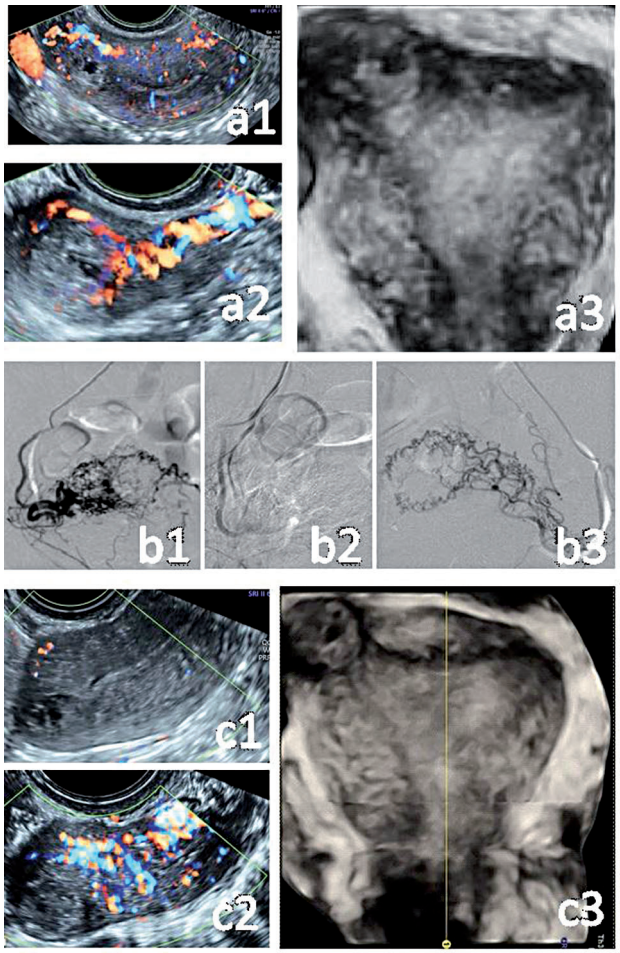

Figure 1. — Ultrasound assessment of the interstitial pregnancy before therapy. a1) High axial view of the uterine corpus showing an empty cavity with lack of decidualization and a gestational sac located in the right horn. a2) Longitudinal view of the right uterine board, with definition color Doppler showing important vascular flow from the right uterine artery to the pregnancy. a3) Three-dimensional sonography is used for a more accurate mapping of the pregnancy location.
b) Selective angiography before and after embolization of the uterine arteries. b1) Selective angiography of the right uterine artery before embolization. b2) Selective angiography of the right uterine artery after complete embolization. b3) Selective angiography of the left uterine artery before embolization.
c) Ultrasound assessment after conservative therapy at one month. c1, 2) The asymmetry of the regressed uterine fundus and color Doppler mapping of the uterine board and fundus show revascularization, but do not detect trophoblastic flow. The image of a gestational sac persists, but is collapsed and echogenic. c3) Uterine 3-D rendering showing further involution of the right uterine horn and the persistence of the pregnancy image, but reduced.

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