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A Cornual Pregnancy Succefully Treated By Methotrexate

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Original Research Article

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Abstract: Cornual pregnancy is rare ectopic pregnancy. A transabdominal ultrasound scan led to suspicion of an abnormal pregnancy. Conventional treatment of interstitial pregnancies includes systemic methotrexate, direct methotrexate injection, hysterectomy, wedge resection or embolization. The following case of a 32 year old female represents a cornual pregnancy that was diagnosed early and subsequently treated successfully with methotrexate.
Keywords: ectopic pregnancy, conual, methotrexate, ultrasound.

INTRODUCTION

Cornual or interstitial pregnancy is a rare subtype of ectopic pregnancy. It represents 2% of ectopic pregnancies [1]. It is located abnormally in the proximal portion of the fallopian tube therefore the diagnosis can be elusive and the treatment challenging for the clinician [2].

It could be considered as a serious gynecologic condition that demands early diagnosis before rupture that could leads to severe hemorrhage with consequent seven-times higher mortality rate, compared to other ectopic pregnancies [3]. In a patient with a positive serum bhCG level, Diagnosis is confirmed with a pelvic ultrasound that shows an ectopic gestation within the interstitium. Two lines of treatment have been note surgical intervention and medical therapy. We present a case of cornual pregnancy on the right that was successfully managed by one injection of methotrexate.

CASE REPORT

A 32-year-old female , gravida 3, para 1, with 1 miscarage, B+, smoking 10 cigarettes per day, with an uneventful history and no ongoing treatment, was admitted at the emergency room for diffuse pelvic pain.

The patient reported menstruation five weeks and 6 days earlier with positive pregnancy test. Physical examination found blood pressure126/73 mmHg; heart rate 88 bpm; pale skin with pelvic tenderness. Her serum bhCG was 1941 mIU/mL.

A transvaginal ultrasound revealed an anterior uterus with a normal size (Fig1). There was no intrauterine gestational sac contained. But an eccentrically located gestational sac was identified in the right cornua of the uterus, measuring 10,4 mm*9.6 mm was found which corresponded to a gestational age of 5 weeks, with a yolk sac without an embryo. No fluid was visible in the pouch of Douglas (fig2).

Fig-1: corneal ectopic pregnancy with a gestational sac in the right cornua and generalized reactive muscular echogenicity surrounding the sac.

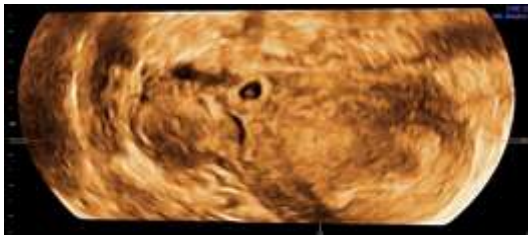

Fig-2: Transvaginal ultrasound 3D of pelvis showing 10, 4-mm gestational sac with presence of a yolk sac in the right cornua

The diagnosis of early right cornual pregnancy was confirmed and the patient consented to medical management with methotrexate. The blood count was normal with hemoglobin of 13, 1 g/dL and a hematocrit of 39.2%. The liver enzymes were normal. The patient weighed 77 kg and her height was 160 cm. Methotrexate in a dose of 1 mg/kg bodyweight was given intravenously, we calculated dose was 77mg of methotrexate, which was administered i.m.

On day 4 following treatment, her serumbhCG level increased to 1360 mIU/mL. On day 7, bhCG levels decreased to 1006 mIU/mL thus the medical treatment had been effective. The patient continued follow-up with bhCG levels and ultrasound. By day 49 following methotrexate administration, her bhCG level had decreased to 2 mIU/mL, which is in the Negative range of the test.

DISCUSSION

Cornual pregnancy is considered as a rare type of ectopic pregnancies but remains a significant cause of maternal morbidity and mortality. The incidence of cornual pregnancy is 2%–4% of all ectopic pregnancies [4].

Even interstitial and cornual ectopic pregnancies are used interchangeably there is a difference. An interstitial pregnancy is an ectopic location of the gestational sac in the intramyometrial segment of the fallopian but in cornual pregnancy the gestational sac is located in the cornua of the uterus surrounded by myometrial tissue without connection to the endometrial cavity [5]. Most of the time there is a delay in the diagnosis of a cornual pregnancy.

There are many factors leading to cornual pregnancy such as pelvic inflammatory disease, fibroids and operative trauma [6]. A high number of transferred embryos, a transfer near the uterine horn or the difficulties during the embryo transfer procedure increase the risk [7].

Symptoms could be an acute abdominal pain or just a pelvic tenderness, intraperitoneal bleeding, a low hematocrit value and a positive serum or urine pregnancy test. The diagnostic tests include the sensitive beta-HCG radioimmunoassay, culdocentesis and ultrasonography.

Cornual pregnancy is diagnosed on pelvic ultrasound based on criteria in the presence of a positive HCG level [8]. The transvaginal ultrasound criteria for interstitial pregnancies [8] were established by Timor Trisch and colleagues [9], these criteria include:

- An empty uterine cavity
- A chorionic sac which is seen separately and which is less than 1 cm from the most lateral edge of the uterine cavity and
- A thick myometrial layer which surrounds the chorionic sac.

We found these three criteria in our patient.

According to some studies, the cornual pregnancy is presented as an abnormally eccentric gestational sac image, surrounded by myometrium and protruding on the right or left of the uterine fundus [10]. The sac remains in contact with the uterine lining; unlike the isthmic pregnancy that is separated by the myometrium .The outer contours of the uterus and the endometrium ought to be followed to distinguish it's from a normal pregnancy in a simple angular position or on a double uterus (unicervical or septate bicorne).

Authors agree that the endovaginal tool is the best way to explore corneal pregnancies.

According to Ackermann [11], endovaginal ultrasound is quite specific (88 to 93%) but its sensitivity is low it's about 40%. Magnetic resonance imaging could be a useful radiological tool for diagnosing cornual ectopic pregnancy in doubtful cases [10].

When an unruptured cornual pregnancy is diagnosed, when uterine preservation is desired, there are many treatment options, such as pharmaceutical treatment, cornual resection, and uterine artery embolization. Methotrexate was introduced because of its success as an antimetabolite drug for the treatment of cancers [12]. It's a folinic acid antagonist that interferes with DNA synthesis in the rapidly proliferating trophoblast.

Medical treatment with methotrexate, which is effective for preserving an undisturbed corneal pregnancy, and preventing the need of a surgery that could affect future pregnancies. One of the major advantages is the preservation of fertility. Methotrexate

could be given directly in the gestational sac successfully in patients with cornual pregnancies [13,9]. It is also given in the form of intramuscular injections or intravenous administration [14].

There are 2 doses protocoles, methotrexate is given in a dose of 50mg/m2 body surface area or 1mg/kg body weight. The laparoscopic approach has been used for treating this kind of pregnancy surgically whenever possible. Although laparoscopic surgery has many advantages over open surgery such as lower surgical morbidity and faster recovery time persistent ectopic pregnancies, recurrences, and uterine rupture in subsequent pregnancies remain the most important disadvantages of laparoscopic surgery [15].

CONCLUSION

The cornual pregnancies are rare and they can be missed radiologically. It's a potentially dangerous condition thus the diagnosis should be made on time because of its fatal consequences.

Medical treatment for unruptured interstitial cornual pregnancy is effective and prevents uterine surgery that could have complications for future pregnancy.

Declaration of interest

The authors report no conflicts of interest

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