

## CORNIAL TWIN PREGNANCY: DIAGNOSIS AND MANANGMENT

### Gynaecology

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|--------------------------|------------------------------------------------------------------------------------------------------------------------------|
| <b>ACHOUR Radhouane</b>  | Emergency Department of Maternity and Neonatology Center, Faculty of Medicine of Tunis El Manar University of Tunis, Tunisia |
| <b>DIARI Jad</b>         | Emergency Department of Maternity and Neonatology Center, Faculty of Medicine of Tunis El Manar University of Tunis, Tunisia |
| <b>ABDELHADI Chadtha</b> | Emergency Department of Maternity and Neonatology Center, Faculty of Medicine of Tunis El Manar University of Tunis, Tunisia |
| <b>CHERNI Adballah</b>   | Emergency Department of Maternity and Neonatology Center, Faculty of Medicine of Tunis El Manar University of Tunis, Tunisia |
| <b>MALEK Monia</b>       | Department "B" of Maternity and Neonatology Center, Faculty of Medicine of Tunis, El Manar University of Tunis, Tunisia      |
| <b>REZIGA Hedi</b>       | Department "B" of Maternity and Neonatology Center, Faculty of Medicine of Tunis, El Manar University of Tunis, Tunisia      |
| <b>NEJI Khaled</b>       | Emergency Department of Maternity and Neonatology Center, Faculty of Medicine of Tunis El Manar University of Tunis, Tunisia |

### ABSTRACT

The cornual pregnancy is a rare entity that represents almost 2% of ectopic pregnancies. Its diagnosis is almost based on ultrasound, laparoscopy and sometimes intraoperative discovery. The risk of rupture with severe bleeding remains high. Laparoscopic surgery is currently the preferred treatment for ectopic pregnancy. Interstitial tubal pregnancy is a rare and dangerous form of ectopic pregnancy that is usually treated by cornual resection or hysterectomy, although cases of medical treatment by methotrexate have been described. A cornual twin pregnancy is an exceptional form. We report the first case diagnosed in our department.

### KEYWORDS:

Cornual ;twin pregnancy, ultrasound,managment.

### 1. INTRODUCTION

The interstitial pregnancy; implantation of the egg in the uterine horn, is an exceptional entity that represents nearly 2 % of ectopic pregnancies [1]. Factors influencing the occurrence of interstitial twin pregnancy specifically have not been elucidated, and the true incidence is unknown because of the rarity of this condition [2].

Because the area is richly vascularized, the diagnosis of interstitial pregnancy is a medical emergency because of the risk of rupture and death, the latter approaching 2.5% [3].

Ultrasound studies and measurements of b-human chorionic gonadotropin (hCG), which permit securing a diagnosis before interstitial rupture, have lowered the morbidity and mortality associated with ectopic pregnancies [3].

The treatment is typically surgical resection often radical by cornual resection or hysterectomy[4], although cases of medical treatment by methotrexate have been described.

An interstitial twin pregnancy is an exceptional form, we report the first case diagnosed in our department.

### 2.CASE REPORT

A 46 years multigravida, Gravida:6, Para:4, presented to our clinic with the complaint of an acute lower painful abdomen at 9 weeks of gestation. Her past medical history of mitral and aortic valvulopathy, right nephrectomy and cholecystectomy. She is a mother of four living children and an unrevised miscarriage.

She present some risk factors as intrauterine contraceptive device for two years and an oral contraceptive micro progestin during the last three years.

The current spontaneous pregnancy is estimated at 9 weeks of amenorrhea (WA). The beta-hcg rate was 29000UI/ml. The patient

consulted the emergency of the maternity and neonatal center of Tunis with the complaint of an acute lower painful abdomen. In the clinical examination she had pelvic pain lateralized to the right without signs of peritoneal irritation. Furthermore, the patient was stable hemo dynamically.

A transvaginal pelvic ultrasound was performed objectifying an empty uterus, endometrial thickness at 10mm ,a gestational sac containing a monoamniotic twin pregnancy separated by more than 1 cm of the uterine cavity and myometrium crown thickness less than 5 mm device (Figure1). Heart activity was positive for both twins (Figure 2,3), the crown-rump length of J1 was 13mm corresponding to a term of 7 WA and 4 days and it was 14mm for J2 corresponding to a term of 7 WA and 5 days and the both ovaries were seen without abnormalities and there was no effusion in douglas. We suspected an ectopic cornual twin pregnancy and an emergency laparotomy was performed under general anesthesia.

In the exploration: no haemoperitoneum, a right cornual pregnancy of 3 cm, normal left fallopian tube , both ovaries were seen and absence of adhesions or pelvic endometriosis(Figure 4).

An interadnexal hysterectomy was performed. The postoperative course was uneventful and the patient was discharged on the 4th day post-operation.

The pathology report confirmed the diagnosis of tubal twin pregnancies, showing blood clot admixed with chorionic villi in the tissue removed from the right tube.

### 3.DISCUSSION

The cornual pregnancy is a rare entity that is distinct from other types of ectopic pregnancy (EP) by its greatest risk of bleeding with a broader indication for radical treatment. This is an unusual seat of ectopic pregnancy [5]. It is rare and represents less than 3 % of EP. Several isolated cases have been reported in the literature [6].

According to Ardaens [5], the cornual pregnancy should be defined by an EP localized in the uterine horn on uterine malformations (uterus bicornis, horned uterus, partitioned uterus). In contrast, the Anglo-Saxon authors [7, 8] extend this definition to all interstitial pregnancies.

### 3.1 RISK FACTORS

Besides the common risk factors for ectopic pregnancy (advanced maternal age, IUD tobacco, contraception micro progestin, endometriosis and a history of pelvic surgery, recurrent pelvic inflammatory disease), specific factors of cornual location are: uterine malformations with rudimentary horn and history of salpingectomy with cornual pregnancy on uterine stump [9].

### 3.2 DIAGNOSIS

The ultrasound diagnosis of cornual pregnancy is well known. According to Timor-Tritsch [7], there is three basic criteria: a vacuum uterine cavity, a separate gestational sac over one cm from the uterine cavity (interstitial line), and a myometrial crown around this bag. We met these three criteria in our patient. Our case was in agreement with literature data. According to them, the cornual pregnancy gives a picture of abnormally eccentric fetal sac, surrounded by myometrium and protruding on the right or left of the fundus [7]. The fetal sac remains in contact with the uterine lining, unlike the isthmic pregnancy which is separated by the myometrium [8,10]. It will closely follow the outer contours of the uterus and endometrium to differentiate a normal pregnancy by simply angular position or dual uterus (bicornuni cervical or partitioned).

We have not made the cornual pregnancy diagnosis by the transparietal pelvic ultrasound. All authors agree that the transvaginal route is the best way of exploring cornual pregnancies [5,7-10]. According to Ackermann [8], transvaginal ultrasound is quite specific (88-93 %), but the sensitivity of about 40 % is poor. The magnetic resonance imaging (MRI) is the most accurate alternative means for positive and topographic diagnosis of rare forms of ectopic pregnancy [11-12]. We did not have MRI. So we used the measurement of serum beta- hcg as advocated by some authors. Typically, the rate of beta- hcg is often higher compared with tubal ectopic pregnancy [11].

### 3.3 MANAGEMENT

There is no therapeutic protocol that establishes the choice of treatment of the cornual pregnancy [2].

laparotomy with hysterectomy or cornual resection have been traditionally treated the cornual pregnancies [4].

Radical treatment by salpingectomy with cornual resection is the standard treatment [9]. We can sometimes be forced to perform a hysterectomy. Medical treatment with methotrexate in situ seems to be an alternative interesting therapeutic when possible [13]. Selective embolization has recently been proposed as an effective treatment [14]. Recently Ultrasoundguided transcervical evacuation under laparoscopic supervision has been described in the literature [3]

### 3.4 PROGNOSIS

The fertility prognosis and risk of recurrence obviously depend on the state of the contralateral horn [15]. As for obstetrical prognosis, it is marked by the risk of uterine rupture, thus, cesarean section appears to be justified in a subsequent pregnancy [7].

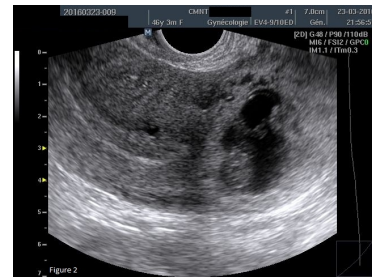
### 4 CONCLUSION

The cornual pregnancy, although rare, is an unusual ectopic pregnancy, with a very grave prognosis and should be diagnosed at an early stage. Its diagnosis is often taken if the transparietal ultrasound with a corresponding late discovery stage of rupture and a faceoff of the prognosis of the patient. Transvaginal ultrasound by allowing its discovery in the early stage is a very good means of diagnosis which in some cases can help the measurement of serum beta- hcg. If in doubt, the magnetic resonance imaging, if available, will affirm the diagnosis accurately.

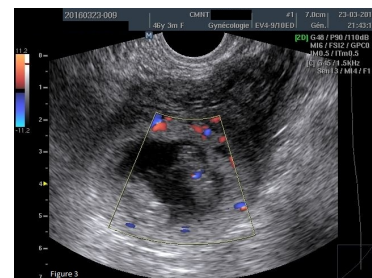
This case demonstrates the importance of maintaining a suspicion for ectopic pregnancy at any gestational ages, with any form (single or twin) and for uterine rupture even in the absence of symptoms.

### Declaration of interest

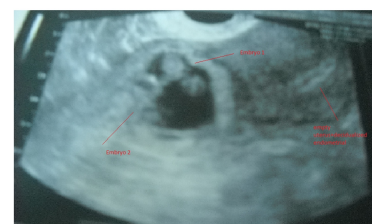
The authors declare having no conflicts of interest related to this article.



**Figure 1.** Gestational sac containing a monochorionic monoamniotic twins pregnancy, localized at the right uterine horn, separated from more than 1 cm from the uterine cavity with a crown thickness myometrial device less than 5 mm.



**Figure 2.** visualization of cardiac activity for both embryos.



**Figure 3.** visualization of both embryos with cardiac activity.



**Figure 4.** Laparotomy

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