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Review Article

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UTERINE RUPTURE ON RUDIMENTARY HORN IN PREGNANCY AT 24 WEEKS

Z. Zghari*, M. Bouh, Y. Essabagh, N. Zraidi, A. Lakhdar, A. Baidada and A. Kharbach

Obstetrics Gynecology Department, Souissi Maternity of Rabat.

***Corresponding Author: Z. Zghari**
Obstetrics Gynecology Department, Souissi Maternity of Rabat.

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INTRODUCTION

Rudimentary horn is a rare uterine malformation due to a defect in the progression of one of Müller's two canals. The occurrence of a pregnancy with rudimentary horn is estimated at 1/100,000 to 1/1400002**.** Embryologically, a bicorn uterus with rudimentary horn corresponds to a defect in the progression of one of the two Müller ducts between the sixth and ninth week of gestation. This rudimentary horn may or may not contain a cavity with an endometrium, which may then be the site of implantation of a pregnancy. This pregnancy most often leads to rupture of the rudimentary horn, especially in the second trimester, and is responsible for a maternal mortality rate of <0.5%1 and a very high neonatal mortality rate.[1,2,3]

We report a new case of uterine rupture on rudimentary horn, through which and in the light of a review of the literature we insist on all the characteristics of this entity, in particular the diagnostic means, the therapeutic management and the prognosis of this rare pathology.

OBSERVATION

Mrs. D., 23 years old, G2P2 for the first normal vaginal delivery at term, presented to the emergency of the Souissi maternity ward undergoing 24 week of amenorrhea for violent abdominal pains of brutal installation.

The first trimester ultrasound examination performed at 10 SA was considered normal.

Initial examination found a patient pale and polypneic with tachycardia, blood pressure at70/40 mmHg pulse at 140. A diffuse and generalized abdominal defense. Pelvic ultrasound revealed a peritoneal effusion of moderate abundance, and a 24-week non-living fetus.

A laparotomy was carried out in emergency, the exploration revealed a hemoperitoneum of 3 l and the evidence of a rupture of a rudimentary right horn communicating with the left horn with a placenta in place and a fetus externalized in the abdominal cavity and a left hemi uterus extended by an adnexa without any abnormality (Fig. 1).

A left hemi-hysterectomy combined with a homolateral salpingectomy was performed. An additional transfusion of 5 red blood cells associated with two bags of fresh plasma intraoperative.

Fig. 1: Intraoperative photograph showing the rudimentary uterine horn with loss of substance after fetal extraction.

DISCUSSION

Uterine malformations affect 0.5% of women. Five percent of them are pseudounicorn uterus, which result from a stop in the development of one of the two Müller canals before it reaches the urogenital sinus: the aplastic side thus gives rise to a rudimentary uterine horn, canaliculated or not, depending on the extent of aplasia. It has been reported that the rudimentary horn predominates on the right side due to the fact that the left Müller's canal progresses more caudally than the right.[5] The incidence of pseudo-unicorn uterus is reported to be about 1 per 1000 women.[4] In 36% of cases, the rudimentary uterine horn contains a uterine cavity, but only in about one third of cases is the uterine cavity canalized.[6] This cavity rarely contains a functional endometrium, exposing it to the risk of placental abnormalities.[7,8] The incidence of pregnancy in the rudimentary horn is about 1/100,000.[9] Because of the limited elasticity of the rudimentary horn, the risk of rupture during pregnancy is high. Rupture can occur as early as the end of the second trimester.[4,2,10]

Diagnosis can be made by ultrasound, especially endovaginal, hysterosalpingography and sometimes by CT scan or magnetic resonance imaging. It is difficult to make an early diagnosis of a pregnancy on rudimentary horn. Endovaginal ultrasound appears to be a good diagnostic tool for these pregnancies, especially in the first trimester. This diagnosis can be supported by magnetic resonance imaging. When a bicorn uterus with rudimentary horn is diagnosed outside of pregnancy, it is advisable to perform a hemi-hysterectomy. Laparoscopic procedures have been described, including those performed on pregnant horn.[11,12] In the first trimester, pregnancy on rudimentary horn can be differentiated from a tubal or abdominal pregnancy by the presence of myometrial tissue surrounding the gestational sac and the presence of a well-defined placenta. In addition, it can be suspected by the lack of continuity between the cervix and the water sac (endovaginal ultrasound) and also by the presence of a bicorneal uterus with asymmetry between the two horns. It is nevertheless difficult to diagnose this uterine malformation before emergency laparotomy for hemorrhagic shock.[13] It is diagnosed in less than 5% of cases before laparotomy.[11] It is then advisable to remove the rudimentary horn as well as the homolateral tube in order to prevent a subsequent ectopic pregnancy if the contralateral tube appears functional. These pregnancies are also at risk of placenta acreta and percreta, probably due to the poor quality of the endometrium and its poor decidualization.[12,14]

The vast majority of these pregnancies (90%) evolve towards rupture of the rudimentary horn, most often in the second trimester of pregnancy in a peritoneal flooding picture with a low fetal rescue rate of around 2%.[8,5] Rarely does the extensibility of the rudimentary horn allow us to approach term and extract a live child as in our observation. Cases of twin pregnancies have also been described in which one was in the rudimentary horn and the other in the functional horn, which would represent 5.3% of pregnancies according to Nahum.[11]

The treatment is only surgical; it is then advisable to perform the removal of the rudimentary horn as well as the homolateral tube in order to prevent a subsequent ectopic pregnancy if the contralateral tube appears functional. However, Nahum recommends continuing the pregnancy with close ultrasound monitoring until term, when 28 completed AS with fetal lung maturation and an estimated fetal weight greater than 1000 kg or if the myometrial thickness at any point on the wall becomes less than 5 mm.[5] However, these pregnancies are at risk of placenta acreta and percreta, probably due to the poor quality of the endometrium and its low decidualization.[5,7]

The after-effects of the operation are generally simple. Nahum had a mortality rate of less than 0.5%. Intravenous urography should be performed to check for any malformation of the associated urinary tract.[2]

CONCLUSION

Pregnancy in a rudimentary uterine horn is a rare form of ectopic pregnancy, difficult to diagnose, which can be revealed in an acute mode secondary to a uterine rupture, thus putting at stake the fetal and maternal vital prognosis. Its management usually involves the excision of the rudimentary horn. To avoid an earlier and more severe recurrence.

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