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Case Report

Rare Case of a Pregnancy in the Rudimentary Horn of a Unicornuate Uterus

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Abstract

The unicornuate uterus with rudimentary non-communicating horn is a uterine malformation found in 0.4% of women. This rare malformation can give rise to several complications, notably pregnancy in the rudimentary horn, which can lead to hemorrhagic shock due to uterine rupture. We describe a rare case of rudimentary horn pregnancy, discovered early at 7 weeks of gestation, which led to surgical treatment by non-emergency hemi hysterectomy. Our case highlights the importance of first-trimester obstetrical ultrasound in detecting these malformations and avoiding complications.

Keywords: Pregnancy; Unicornuate; Rudimentary Horn; Ultrasound; Surgery

Introduction

The actual incidence of congenital uterine malformations is estimated at between 0.1% and 3.8% [1]. The common denominator of these malformations is an anomaly in the development or fusion of the Müllerian ducts [2]. The unicornuate uterus results from a defect in the development of one of the two Müllerian ducts, either in its entirety (true unicornuate) or partially (unicornuate with hemi-uterus or rudimentary horn). If this rudimentary horn contains a functioning cavity, we may encounter gynecological or obstetrical complications such as hematometra, dysmenorrhea, pelvic pain and ectopic pregnancies [3].

Case Report

Mrs. X, 26 years old, consulted for infertility of 2 and a half years. She had no prior medical or surgical history.

We performed a pelvic ultrasound that showed a small uterus lateralized to the left. The endometrium was regular. We noticed the presence of a rounded mass adjacent to the uterus difficult to interpret on ultrasound.

Next, we ordered a hysterosalpingography that showed a unicornuate uterus; the left tube was permeable, but there was no passage of product through the right fallopian tube.

In order to better understand the uterine anomaly, we decided to perform a hysteroscopy coupled with diagnostic laparoscopy to better individualize this mass and investigate whether there was an obvious cause of infertility.

The hysteroscopy showed a single cervix, a uterine cavity reduced in size, and a regular endometrium. A single tubal ostium was found on the left.

Laparoscopy revealed a malformed unicornuate uterus with rudimentary horn: a normal-looking left hemi-uterus with body-isthmus-cervix continuity (a hysterometer was introduced vaginally through the cervix and kept in place in the uterine cavity), and a smaller right hemi-uterus with no visible connection between the two.

The patient got pregnant shortly after this intervention, without medical assistance. She underwent a cesarean section in June 2021 with no complications in the post-partum period.

When she got pregnant again two years later, again with no medical assistance, the first trimester ultrasound (Figure 1) performed at around 7 weeks of gestation showed two hemi-uteri; a left hemi-uterus with a decidual reaction (regular thick endometrium) with no visible ovarian sac, and a right hemi-uterus containing a 25mm gestational sac with a 6mm embryo that had regular cardiac activity. There was no obvious communication between the two hemi-uteri.

Figure 1: Obstetrical transvaginal ultrasound showing an empty left hemi-uterus with thick endometrium and a right hemi-uterus containing a gestational sac with 6mm embryo with no obvious communication between the two.

An abdomino-pelvic MRI performed one week later (Figure 2) was in favor of a unicornuate uterus with rudimentary horn: a right horn (rudimentary) containing a 4cm gestational sac, and a normal looking left horn in continuity with the cervico-vaginal tract. There was no visualization of a connexion or a fistulous tract between the cavities of the two hemi-uteri.

We decided to perform a laparotomy to terminate the pregnancy and remove the rudimentary cavity. Investigation: the right hemi-uterus was enlarged, purplish in color and hypervascularized. The attachment between the two hemi-uteri was wide(Figure 3). We severed this attachment between the two hemi-uteri. There did not

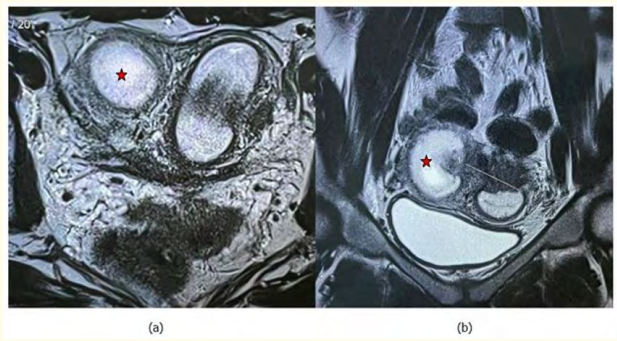

Figure 2: Pelvic MRI in T2 axial (a) and coronal (b) sections showing a unicornuate uterus with a rudimentary right horn (star) containing a gestational sac and a normal-looking left horn with no communication between the two hemi-uteri.

appear to be any communication between the two cavities, as there was no effraction of the uterine cavity of the left hemi-uterus.

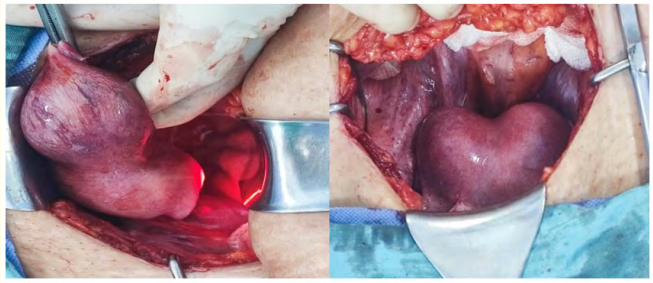

Figure 3: Malformed unicornuate uterus with rudimentary, purplish, enlarged right horn.

We received the anatomopathological result of the specimen removed J5 postoperatively, and it was indeed an ectopic pregnancy localized in a rudimentary uterine horn.

Discussion

Our case is very interesting given that the incidence of unicornuate uterus with rudimentary horn, classified as U4a according to ESHRE [4], is rare (2.4 to 13% of congenital uterine malformations [1], and that the incidence of pregnancy on rudimentary horn is even rarer (of the order of 1/120000 pregnancies [5]. We should also point out that we discovered the pregnancy at an early stage, which enabled us to schedule our surgery outside an emergency context.

Pregnancy can occur on this rudimentary horn, and a late diagnosis can lead to horn rupture and even a cataclysmic hemorrhagic shock [3]. Pregnancy can occur as a result of transperitoneal migration of sperm or zygote through the tube to the rudimentary horn, where implantation takes place [1].

Ultrasound findings that suggest a rudimentary horn pregnancy are the absence of continuity between the cervix and the gestational sac, endovaginally, and the visualization of a "bicornuate" uterus with significant disparity between the size of the two horns [3]. In most cases, pelvic MRI is essential to confirm the diagnosis [5].

As far as treatment is concerned, surgical removal of the rudimentary horn is required as soon as the diagnosis is made [1,3]. Laparoscopy is the gold standard for this surgery, but the choice depends essentially on the expertise of the surgeon, the quality of the technical platform, and the patient's condition; in the event of hemorrhagic shock, the abdominal route is indicated [3].

Conclusion

The unicornuate uterus with rudimentary non-communicating horn is a rare uterine malformation affecting 0.4% of women. The occurrence of a pregnancy on this rudimentary horn is an even rarer event, fraught with serious complications if the diagnosis is not made in time. Diagnosis is difficult, but possible with ultrasound and MRI, which is why we stress the extreme importance of 1st trimester ultrasound for all pregnant women.

Conflict of Interest

There is no conflict of interest.

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