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Case Report

Misdiagnosed Case of a Rudimentary Horn Pregnancy

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Abstract

Objective: To emphasize the importance of knowledge of mullerian anomalies while evaluating a suspected case of pregnancy in a bicornuate uterus.
Design: Case report
Setting: Obstetric unit in a training and research hospital.
Patient: A 25 year old primigravida woman with 26 weeks pregnancy in a non communicating rudimentary horn.
Intervention: The exact diagnosis of ruptured non communicating rudimentary horn pregnancy was diagnosed after explorative laparotomy.
Conclusion: Pregnancy in a non communicating rudimentary horn should always be considered as a differential diagnosis of a pregnancy in a bicornuate uterus. Lack of experience and knowledge may lead to incorrect diagnosis in such cases, and hence compromising maternal and fetal health.
Keywords: Non communicating rudimentary horn, Bicornuate uterus, Mullerian anomaly.

1. Introduction

A unicornuate uterus is the mullerian anomaly which results from the normal differentiation of only one of the two mullerian ducts present in the female. Development of second mullerian duct is partial and leads to rudimentary horn with or without cavity (type A1 or A2) and communicating or non communicating with the uterus (type A1a or A1b). Around 84% of the unicornuate uterus has a contralateral rudimentary horn [1]. One of the rarest types of ectopic pregnancy is the pregnancy in the non communicating horn of the unicornuate uterus, with an incidence of 1 in 76,000 pregnancies [2].

Such pregnancies continue for a longer gestational period because of the variable musculature of the horn, with the uterine horn rupture risk of 50%, especially during the second trimester and a poor neonatal survival rate <15% [2]. We report a case of pregnancy within the rudimentary uterine horn misdiagnosed as the pregnancy in the bicornuate uterus. It was reported to be a tubal ectopic pregnancy in first trimester ultrasound, followed by a laparoscopic examination in another institute which diagnosed it to be an intrauterine pregnancy in a bicornuate uterus.

2. Case report

A 25 year old primigravida presented in the obstetric emergency room of Mayo Institute of Medical Sciences, Barabanki, with 26 weeks of gestation with complains of generalized abdominal pain, vomiting and breathlessness for last 12 hours. She received injection ranitidine and diclofenac at some other hospital.

Her general condition was stable. In her obstetric history, it was noted in ultrasound at 9 weeks 3 days of gestation that the endometrial cavity was empty and the extrauterine gestation sac with a single live fetus was seen in the right fallopian tube.

She underwent a laparoscopic examination for tubal ectopic pregnancy at a tertiary hospital, and was misdiagnosed to have an intrauterine pregnancy in a bicornuate uterus. She was advised to continue the pregnancy, with close antenatal surveillance. The patient did not follow up in that hospital and was asymptomatic till 26 weeks of the gestation, when she experienced pain abdomen, breathlessness and vomiting.

On examination, her vitals were normal (Blood pressure= 110/60 mm of Hg, Pulse rate = 104/minute, regular, SpO2 = 98% on room air). Cardiovascular and respiratory examinations were unremarkable and 50 ml of clear urine was drained on urethral catheterizarion. Abdominal examination revealed rebound tenderness and rigidity over whole of the abdomen, and uterine contour could not be made out due to

tenderness and rigidity in the abdomen. Pelvic examination revealed closed internal os, single cervix and vagina and slight tenderness on cervical motion.

The patient was subjected to investigations, hemoglobin was 7.2 gm/dl and rest all the values (WBC count, platelets, coagulation profile, liver function test, renal function test, serum amylase and lipase) were normal. The ultrasound showed a non viable 26 weeks fetus in abdominal cavity, with fetal head below left renal pole, normal uterine cavity, and a mass of 10x 9 cm with a differential diagnosis of right sided complex ovarian cyst, myoma or a bicornuate uterus.

MRI could have been used to confirm the findings of the ultrasound, but the decision to do laparotomy was resorted to avoid unnecessary delay in the treatment.

Patient was given spinal anaesthesia. On opening the abdomen, around one and a half litre of clotted blood came out. There was unicornuate uterus with ruptured right horn of 8.0 x 9.0 x 6.0 cm. A rent of 14 cm was present on the cranial end of the right horn, with placenta and the membranes protruding through the rent. A dead female fetus with the umbilical cord was retrieved from the abdominal cavity from below the left renal pole. The fetus was 29 cm in length and 580 grams in weight. It had no apparent gross congenital anomaly. The right rudimentary horn was resected with right fallopian tube, which was attached to the horn. The horn was connected to the unicornuate uterus by a 2.5 cm fibromuscular band. Hemostasis was secured followed by peritoneal lavage. Patient received 3 units of packed red blood cells post operatively. Post op recovery was uneventful and patient was discharged on 10th day. Post operative MRI showed no renal or urinary tract anomaly.

Figure 1: Intraoperative photograph showing right sided ruptured non communicating rudimentary horn with protruding placenta and retrieved fetus from the abdominal cavity

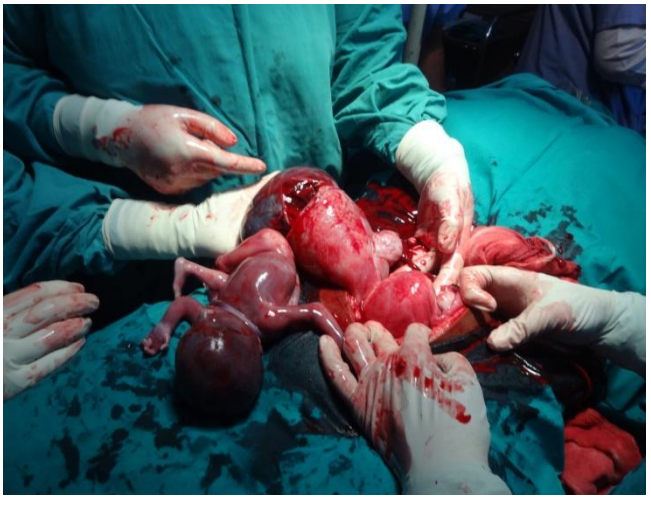
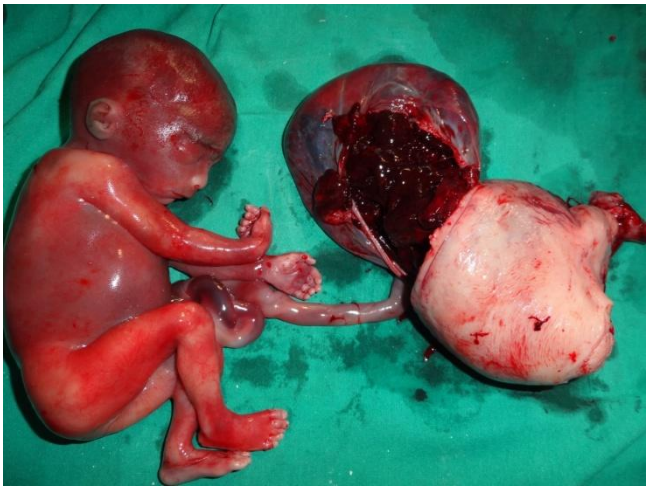


Figure 2: Resected specimen of rudimentary horn with ipsilateral salpinx, placenta, cord and fetus



3. Discussion

The prevalence of congenital uterine malformations is about 6% in female population, of which unicornuate uterus has a still lower prevalence. Fusion defects of the mullerian ducts are frequently combined with other anomalies of the genitourinary tract, such as vaginal septum, renal agenesis and commonly manifests as dysmenorrhea, dyspareunia and infertility [3]. However, there were no such complains in this case and no renal or vaginal anomaly was found.

The connection between the horn and the uterus may be fibrous or fibromuscular with 80-90 % of cases having no direct communicating channels between the two cavities [4]. Pregnancy in such a non communicating horn must result from the transperitoneal migration of the sperm or the fertilized egg from the opposite side ovary [5].

Pregnancy within a non communicating rudimentary horn is a rare form of ectopic gestation, reported in 1 in 76,000 pregnancies[2]. 30% of these pregnancies progress to term or beyond, while 50% uterine horns rupture, with 80% of these rupture before third trimester [2]. Rupture of rudimentary horn during pregnancy leads to hemoperitoneum, with the resultant risk of maternal and fetal morbidity and if not treated in time, can lead to mortality. Early diagnosis is the key to the successful management of rudimentary uterine horn pregnancy [6].

A thorough first trimester ultrasound can lead to early diagnosis and hence timely treatment in such cases. Tsafrir *et al*[7] proposed few criteria for ultrasonographic diagnosis for the pregnancy in the non communicating rudimentary horn: (1) a pseudopattern of an asymmetrical bicornuate uterus, (2) absent visual continuity in tissue surrounding the gestation sac and the uterine cervix, and (3) the presence of myometrial tissue around the gestation sac.

However, sensitivity of sonography is very low, around 26% [8]. Therefore high index of suspicion should be there if a previously documented tubal pregnancy or a pregnancy in a bicornuate uterus progresses to the second trimester. In case of suspicion of rudimentary horn pregnancy, magnetic resonance imaging MRI has proven to be a useful tool for diagnosis [7].

Our patient was misdiagnosed as an intrauterine pregnancy in a bicornuate uterus in laparoscopy, after an initial diagnosis of tubal ectopic pregnancy in ultrasound. This case could neither be identified by ultrasound, nor by laparoscopy.

Such cases involving confusion in diagnosis that required further evaluation have been reported in literature [9,10]. Knowledge of Mullerian anomalies and its ultrasonographic and laparoscopic appearance is a great tool in diagnosing such conditions before life threatening situation arises.

Pregnancy within a rudimentary horn should always be managed surgically by the removal of the horn along with ipsilateral tube because of high risk of rupture [8,10-12]. Explorative laparotomy was done timely in our case with removal of horn with ipsilateral salpingectomy, salvaging the mother's life.

4. Conclusion

A thorough ultrasonographic and if required, MRI examination should be done in a case of suspected intrauterine pregnancy in a bicornuate uterus, considering the pregnancy in rudimentary horn as a differential diagnosis. An adequate knowledge of Mullerian duct anomalies is required for correct and early diagnosis.

Disclosure: No author has any conflict of interest.

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