

Case Report

Rupture of Rudimentary Uterine Horn at 15 Weeks Gestation

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ABSTRACT

Rudimentary horn is one of the most rare congenital uterine anomalies and consists of a relatively normal appearing uterus on one side with a rudimentary horn on the other side. A rare case of rupture of a non-communicating rudimentary horn pregnancy at 15 weeks gestation is reported. The patient had

signs and symptoms of massive hemoperitoneum. This reproductive complication was treated successfully by prompt exploratory laparotomy where excision of the rudimentary horn was done. Some of the factors associated with pregnancy in a rudimentary horn are discussed.

KEY WORDS: rudimentary horn, uterine rupture

INTRODUCTION

Rudimentary horn is one of the rarest congenital uterine anomalies and consists of a relatively normal appearing uterus on one side with a rudimentary horn on the other. The rudimentary horn may consist of a functional cavity, or it may be a small solid lump of the uterine muscle with no functional endometrium^[1]. The prevalence of congenital uterine anomalies among fertile women is reported as 1:200 to 1:600, whereas that of unicornuate uterus with rudimentary horn is more rare 1:100,000^[2]. The rudimentary horn results from an arrest in the development of one of the Mullerian ducts and failure to fuse with the other side. The connecting band of the rudimentary horn is subject to many variables; it may be muscular or fibrous and pedunculated. Conception in the rudimentary horn arises either from a small communication with the uterine cavity or by transperitoneal migration of either spermatozoa or the fertilized ovum from the contralateral side^[3].

CASE HISTORY

A 24-year-old Kuwaiti patient, married for four years and has one female child, was admitted to hospital due to acute abdominal pain with 15 weeks pregnancy five days after cervical cerclage. She had past history of previous two first trimester abortions that ended by evacuation and curettage, and one preterm labor at 30 weeks gestation complicated by premature rupture of membranes and ended by normal vaginal delivery of alive preterm female. On examination, the patient was in a state of hypovolemic shock. She was pale but fully conscious, her BP was 90/50 mmHg and the pulse rate was 90/min. There

was a marked distension of the abdomen with severe tenderness and rigidity all over. By vaginal examination, the uterine size could not be estimated properly, both adnexae were very tender and the cervical stitch was in situ, but no vaginal bleeding detected. Urgent ultrasound scanning revealed an in utero gestational sac with a dead fetus of 14 weeks gestation and large amount of collected fluid in the pelvis and peritoneal cavity. Emergency laparotomy was performed on the diagnosis of intra-abdominal bleeding. Intraoperative findings included the fetus laying free in the peritoneal cavity, in about 1500ml of bloody amniotic/peritoneal fluid under left copula of the diaphragm with the placenta and blood clots loosely adherent to the greater omentum. The uterus was bulky and at its left lateral side a ruptured rudimentary horn of the uterus was attached (Fig. 1). Both tubes and ovaries were normal. Good hemostasis was achieved by complete excision of the



Fig. 1: Shows the fetus and placenta

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rudimentary horn with its tube and removal of the fetus and placenta. At the same time, resuscitation was successfully done by transfusion of two units of fresh blood as well as I.V. fluids. The postoperative recovery was uneventful and the patient was discharged in the fifth day in a good condition.

DISCUSSION

Ectopic pregnancy is either uterine or extrauterine. The uterine type is rare and it could occur in the cervix, diverticulum, the uterine angle (angular) and in a rudimentary horn of the uterus. Ectopic pregnancy in rudimentary horn is rare its incidence is 1/100,000. It is the result of either nidation in the atretic horn of a bicornuate uterus or a result of incomplete failure of development of one Mullerian ducts, so one half is developed (unicornuate uterus) while the other half became a rudimentary horn. In about 90% of cases, there is no connection between the two horns (the unicornuate and the rudimentary). Ectopic pregnancy in the rudimentary horn occurs by transperitoneal migration of either the sperm or the fertilized ovum. Before conception, rudimentary horn can be diagnosed by a history of dysmenorrhea, since menarche and pelvic pain due to the collection of blood in the rudimentary horn, in addition to hysterosalpingography, ultrasonography, and laparoscopy.

After conception, its early diagnosis is difficult. However, clinically the most frequent symptom is abdominal pain either before or after the rupture with or without vaginal bleeding.

After a rupture the picture will be acute abdomen with the risk of severe shock and maternal mortality. Definite diagnosis of rudimentary horn pregnancy is usually made at laparotomy. However, ultrasound diagnosis before rupture has been documented by Holdden and Hart in 1983^[4].

The rupture usually occurs late after 12 weeks gestation because the gestational sac is surrounded by the myometrium layer of the horn. The first ruptured pregnancy in rudimentary horn was reported by Mauriceau 1669. Since then, more than 350 such cases have been reported^[5]. In 80-90% of the cases ruptured by the midsecond trimester, and approximately 10% will go to term with a 2% fetal salvage rate^[6,7]. Ruptured horn should be differentiated from other causes of acute abdomen whether obstetric or non-obstetric causes.

In our case, the patient had a history of two previous first trimester abortions and one preterm labor at 30 weeks gestation. When the patient got pregnant, she was attending the outpatient clinic for routine antenatal care. She had sonographic scanning that showed a viable fetus at 14 weeks gestation but the diagnosis of associated

rudimentary horn was missed. Cervical cerclage was done as a prophylactic measure based on the previous history of two abortions and one preterm labor. During examination under general anesthesia, before the cervical cerclage, the diagnosis of the rudimentary horn was missed again. In this case, the diagnosis of ruptured rudimentary horn pregnancy was missed two times before laparotomy. The presence of the cervical cerclage adds to the ambiguity in the diagnosis of the case. However, delay in diagnosis during early pregnancy is quite common as there are no definite signs to distinguish this abnormal implantation from normal intrauterine pregnancy, especially if it is anterior to the normal horn. Finally, the treatment was excision of the rudimentary horn and resuscitation of the patient.

CONCLUSION

Rupture of rudimentary horn is one of the remote possibilities of acute abdomen with pregnancy. However, missing the diagnosis can lead to such fatal complications while early detection can save the patient's life. History suggestive of repeated abortions and preterm labor must be investigated before conception to exclude Mullerian duct malformation, which can lead to such extremely fatal conditions. In routine ultrasound scanning in normal pregnancy, a rudimentary horn is highly suspected, if another mass beside the normal pregnant uterus appeared with a decidual reaction. In addition, in cases with rudimentary horn pregnancy, the placenta appears well defined, clearly more than in cases of abdominal pregnancy, and this can be used to differentiate between both cases. In all such cases, surgical excision is mandatory. In addition, an intravenous pyelogram is indicated because of the high incidence of associated urinary tract anomalies in the presence of genital tract anomalies^[6].

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