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Asymptomatic Rupture of Term Non-communicating Rudimentary Horn of Uterus: A Case Report

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Abstract:

A Rudimentary horn is a rare form of congenital uterine anomaly, resulting from an arrest in the development of one of the Mullerian ducts with inappropriate fusion with the other side. In most of the cases no direct communicating channel exists between the two parts of the uterus. Pregnancy in the rudimentary horn represents a rare form of ectopic gestation and is thought to result from transperitoneal migration of spermatozoa or the fertilized ovum. Most patients with rudimentary horn pregnancy present in second trimester with hemorrhagic shock due to rupture of horn. Diagnosis of the rudimentary horn may be done with magnetic resonance imaging or 3D, 4D ultrasonography but confirmation of diagnosis is usually surgical at laparoscopy or laparotomy. We report a case with provisional diagnosis of a case of primigravida with 40^{+} weeks pregnancy with transverse lie along with placenta praevia and intrauterine fetal death. But at laparotomy it revealed a ruptured pregnant non-communicating horn of uterus.

Keywords: Rudimentary horn, unicornuate uterus, rupture.

Introduction:

A rudimentary horn results from an arrest in the development of one of the Mullerian ducts with inappropriate fusion with the contralateral side. The connection between the horn and the uterus may be fibrous or fibromuscular with 80-85% of cases having no direct communicating channel between the two cavities[1]. Pregnancies occurring in the non-communicating rudimentary horn are thought to result from transperitoneal migration of spermatozoa or the fertilized ovum[2]. Pregnancy in the rudimentary horn represents a form of ectopic gestation. It is a rare event with a reported incidence varies from 1:100000 to 1:140000 pregnancies[3]. The most significant threat of a rudimentary horn pregnancy is the risk of rupture, usually in the second trimester because of poorly developed musculature and manifesting commonly as acute abdominal pain[4]. The magnetic resonance imaging provides a considerable improved and accurate means of diagnosis and identifying Mullerian anomalies. Three dimensional sonography also offers advantage over two dimensional scanning as it provides fine anatomical details useful for preoperative planning but confirmation of diagnosis is usually surgical at laparoscopy or laparotomy[5]. We report a case of pregnancy in the non-communicating horn of the uterus, which ruptured at term, the rupture remained asymptomatic, diagnosis confirmed after laparotomy.

Case Report:

A 22 years old primigravida was admitted on the day after her EDD (Expected Date of Delivery) with the complaints of loss of fetal movement. On history, she was married for 2 years without any contraceptive use. Her menstrual cycle was regular occurring 28-30 days interval, bleeding lasting 3-5 days without significant dysmenorrhoea.

On general examination, she was of average built with mild anaemia, pulse rate 95/minute, BP 140/70mmHg. Cardiorespiratory systems revealed no abnormality. On per abdominal examination, the height of uterus was 34 weeks, the uterus was transversely wide with lower pole empty and contour was not conspicuous. Fetal heart sound was absent. On per vaginal examination, cervix was long, os was closed and presenting part could not be reached.

Investigations showed Hemoglobin (Hb) 9.2gm/dl, blood group B-positive, random blood sugar 5.5 mmol/L and HBsAg-negative. Ultrasonography (USG) showed 38 weeks 4 days pregnancy with transverse

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lie with placenta praevia with intrauterine fetal death. Her previous ultrasonographic reports at 34 weeks and 36 weeks revealed alive fetus with cephalic presentation with placenta praevia. Our provisional diagnosis was a case of primigravida with 40^{+} weeks pregnancy with transverse lie with placenta praevia and intrauterine fetal death.

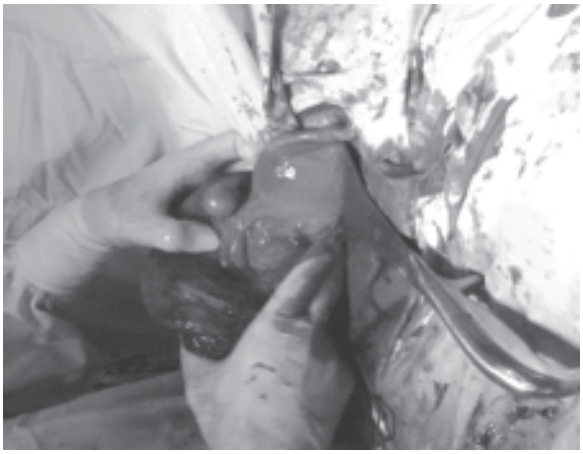

Fig.-1: *Ruptured horn*

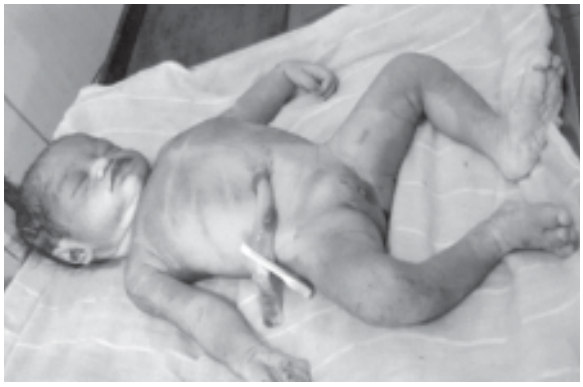

Fig.-2: *Full term dead foetus*

Patient was taken into the operation theatre for caesarean section operation on 9th December 2014. On laparotomy a dead female foetus was found in the peritoneal cavity with about 300-400cc of haemoperitoneum and the baby was delivered. The ruptured collapsed right rudimentary horn was found very thin and non-communicating to the main uterus. The placenta was found accreta and attached to the lower part of rudimentary horn. The rudimentary horn along with right fallopian tube excised. The main uterus was about 10-12 weeks size with healthy fallopian tube. Both ovaries were healthy and kept undisturbed. Both the kidneys were palpated and assumed normal. The fetus was of 2.4kg weight. One unit of blood was transfused. Postoperative recovery was uneventful and she was discharged on 7th postoperative day.

Discussion:

In this form of ectopic gestation implantation occurs in the cavity of rudimentary horn of the uterus, the horn in this case was non-communicating with the other uterine cavity. It must be assumed that sperm ascends through the other horn of the uterus and get fertilized with the ovum in the peritoneal cavity. It then enters the fallopian tube of rudimentary horn.

Abdominal pain is the commonest presenting symptom associated with the rudimentary horn[6]. The non-communicating cavitated rudimentary horns are clinically more significant because of pain likely to be associated with endometriosis due to retrograde menstruation[7]. The pain associated with rudimentary horns in pregnancy commences from the end of the first and beginning of the second trimester[8].

Ninety percent of rudimentary horn pregnancies usually end with rupture and fetal demise. However, live birth cases have been reported after caesarean section, which have progressed to third trimester[9]. Maternal mortality rate is 5.1%, although, none was reported after 1960[10].

Sudden collapse due to rupture of the pregnant horn with haemoperitoneum may be the only sign which is common to both communicating and non-communicating types of uterine horn pregnancy as gestation advances[11]. Rupture of pregnant rudimentary horn is usually resulting in severe and dramatic haemoperitoneum at the beginning of the second trimester[12]. Asymptomatic rupture of a rudimentary uterine horn was also reported[13]. In our patient, pregnancy progressed even to expected date of delivery and rupture of the horn was asymptomatic.

Difficulty 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[6,14]. Accurate diagnosis is nevertheless possible and important early in pregnancy[15], to allow planning of surgical management[16]. In our case, diagnosis of rupture of pregnant non-communicating rudimentary horn of uterus was made on laparotomy. Excision of rudimentary horn with fallopian tube was done. Excision is usually carried out at laparotomy, but has been increasingly successfully carried out laparoscopically[17].

Conclusion:

Rudimentary horn pregnancy is a rare form of ectopic gestation. It usually carries a fatal consequences both for the mother and the fetus. Advanced pregnancy in a rudimentary horn with delivery of a viable fetus is exceptional. Early diagnosis and excision of rudimentary horn before rupture may be life saving and is advised.

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