Abstract:
Rudimentary horn is one of the rare mullerian congenital anomalies and consists of a relatively normal appearing uterus on one side with rudimentary horn on the other side. In our case 17 years old primigravida with amenorrhoea of 52 days has reported with abdominal pain. Early diagnosis of ectopic pregnancy was done with Transvaginal sonography. Intraoperatively unicornuate uterus with pregnancy in rudimentary horn on left side was found. Excision of the horn was done. Same side tube was healthy and conserved for future tubal reconstructive surgery.

Key words: Ectopic pregnancy; rudimentary horn; unicornuate uterus; unruptured pregnancy

Introduction
Uterine malformations are the results of abnormal mullerian duct development-fusion, canalization and septal defects. Unicornuate uterus with a rudimentary horn is one such anomaly of uterus occurring due to fusion defects. The attachment of the rudimentary horn to main uterus varies from a fibro muscular band to an extensive fusion between the two horns where there is no external separation between them [1]. Conception in the rudimentary horn is very rare, arises either from small communication with uterine cavity or by transperitoneal migration of the ovum from contralateral side [2]. The incidence of mullerian duct malformations in the general population is estimated to be 4.3% while that of unicornuate uterus is about 0.4%. Rudimentary horn pregnancy occurs in approximately 1/76 000 to 1/150000 pregnancies [3].

It is associated with a high rate of spontaneous abortion, preterm labour, intrauterine growth retardation, intraperitoneal haemorrhage and uterine rupture [4]. Rudimentary horn pregnancy in a non-communicating rudimentary horn is very difficult to diagnose before it ruptures. Ultrasound shows- 1) A pseudo pattern of asymmetrical bicornuate uterus; 2) Absent visual continuity of
tissue surrounding the gestation sac and the uterine cervix 3) Presence of myometrial tissue surrounding the gestation sac [5]. None-the-less most cases remain undiagnosed until it ruptures and presents as an emergency.

**Case Report**

A 17 years old primigravida presented with amenorrhoea of 52 days with left iliac fossa pain in the department of OBG at Mamata General Hospital, Khammam, Telangana. There was no history of bleeding per vagina. On examination, pallor present, Pulse rate 100/min, Blood pressure was 90/60 mm of Hg. Per abdominal examination there was no palpable mass and no tenderness. On Bi manual examination uterus was soft, 6 weeks size tenderness was present in left fornix, and no adnexal mass was felt. Cervical movements were painful. Urinary pregnancy test was positive. Transvaginal sonography was done which was reported as unruptured left adnexal ectopic pregnancy. Emergency laparotomy was done.

Intra-operative findings were - Rudimentary horn with gestational sac of 5x5cm attached to left superior border of uterus was noticed as seen in figure-1. Left tube and round ligament were seen attached to the rudimentary horn as in figure-2. Both tubes and ovaries were healthy. No haemo peritoneum was observed. Resection of the horn was done; myometrial suturing was done at the site of resection of horn. Since left tube was healthy, salpingectomy was not done in view of future reconstructive surgery. Both kidneys were normal in size on palpation. Histopathological examinations of gross specimen showed a fetus with a crown-rump length of 0.8mm in rudimentary horn as shown in figure – 3. Sections showed normal villi within a thickened smooth muscle and findings were consistent with uterine horn gestation.

[Figure 1: Pregnancy in rudimentary horn]

[Figure 2: Fallopian tube and round ligament arising from rudimentary horn]

[Figure 3: Gestational sac in myometrium of rudimentary horn]

**Discussion**

As the foetus enlarges in the rudimentary horn, the chances of rupture in the first or second trimester are increased. Catastrophic haemorrhage results in increased maternal mortality and morbidity. In the past, majority of cases were diagnosed after rupture of the rudimentary horn. Despite advances in ultrasonography, the accuracy of ultrasound in diagnosing rudimentary horn pregnancy especially at advanced gestation remains elusive [6]. Confirmatory diagnosis is made only at laparotomy [7]. However, with the advent of investigative methods such as MRI, and laparoscopy, the diagnosis is being made before rupture now-a-days. MRI is better for diagnosis of mullerian anomalies. Magnetic resonance imaging has proven to be a useful, noninvasive tool for the diagnosis of Mullerian abnormalities but was not feasible in above case, as patient came with pain abdomen and was diagnosed to have adnexal ectopic pregnancy.
Since most patients present with features of ectopic pregnancy, early diagnosis of rudimentary horn pregnancy remains challenging. Diagnosis of rudimentary horn pregnancy before rupture in first trimester was reported in a case report [8] where resection of horn was done along with salpingectomy similar to above case report. However tube was conserved in above case in view of nulliparity. Deepti Sharma et al reported a similar case with 12 weeks gestation, where laparoscopic resection of non-communicating unruptured rudimentary horn pregnancy was carried out making laparoscopy a safe alternative to laparotomy [9].

Non-communicating unruptured rudimentary horn pregnancy culminating in a live birth is very rare. A case report by Nahum [10] showed twin pregnancy in rudimentary horn, where both babies survived. Goel et al reported an extremely rare case of non-communicating unruptured rudimentary horn pregnancy that progressed to 41 weeks and 3 days period of gestation which was missed at 18-34 weeks by ultrasound and later diagnosed as abdominal pregnancy [11]. Similarly Patra S et al reported a multigravida who presented at 37 weeks of gestation with transverse lie and oligohydramnios. At laparotomy non-communicating unruptured rudimentary horn pregnancy with a live fetus and placenta percreta were revealed [12].

Conclusion

Above case highlights the need for high index of suspicion to diagnose rudimentary horn pregnancy. Early diagnosis and prompt management was done before rupture. Early diagnosis is crucial to save the patient from catastrophic events.

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