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PREGNANCY IN NONCOMMUNICATING RUDIMENTARY UTERINE HORN

Obstetrics & Gynaecology

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ABSTRACT

A Non communicating rudimentary horn is a rare type of Mullerian duct malformation. This results from defective fusion or defective absorption during embryonic life. Despite advanced ultrasound technology, antenatal diagnosis remains elusive with confirmatory diagnosis being made usually at laparotomy. We here present a case of non-communicating rudimentary horn with 11.6 weeks of live fetus diagnosed by use of multiple modalities and managed surgically.

A 22-year-old primigravida with 12 weeks amenorrhea was referred to our hospital with a USG s/o of right sided adnexal live ectopic gestation. The abdomen was soft with marked tenderness in the right iliac fossa without rebounds tenderness. On USG, the ectopic gestational sac was surrounded by irregular thin myometrial tissue with live fetus. MRI was done s/o extrauterine gestational sac in the right adnexal region with fetal parts noted within. On diagnostic laparoscopy we could visualise a rudimentary horn which was non communicating with cervix. Rudimentary horn was dilated and shows dilated vessels. On exploratory laparotomy, non-communicating rudimentary horn with pregnancy in situ excised. haemostasis achieved. Procedure uneventful.

Non-communicating rudimentary uterine horn pregnancy is a rare entity associated with life threatening consequences. Early diagnosis and early interventions will avoid maternal morbidity and mortality. If USG remains inconclusive, the use of magnetic resonance imaging is suggested. On account of difficulty to diagnose rudimentary horn pregnancy, it is required that we as obstetricians keep this differential in our mind specially in ectopic gestation with more than 8 to 10 weeks amenorrhea.

KEYWORDS

INTRODUCTION:

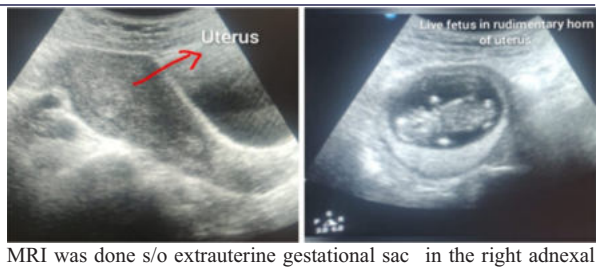
A Non communicating rudimentary horn is a rare type of Mullerian duct malformation. This results from defective fusion or defective absorption during embryonic life. The first case of a rudimentary horn was described by Manricean in 1669.[1,2] A rudimentary horn pregnancy occurs in approximately 1:100,000 to 1:140,000 pregnancies.[1] The possible explanation for pregnancy to occur is by transperitoneal migration of ovum through the abdominal cavity. This suggestion is based on the findings of corpus luteum in the contralateral ovary in 10% of cases.[3]

Despite advanced ultrasound technology, antenatal diagnosis remains elusive with confirmatory diagnosis being made usually at laparotomy. These non-communicating rudimentary horns are without endometrial cavity (45%) and do not have a cervix or a vaginal outlet in some cases.[2,4] Pregnancy is accommodated for a variable period of gestation because of the varied muscular constitution in the thickness and distensibility of the wall of the rudimentary horn. We here present a case of non-communicating rudimentary horn with 11.6 weeks of live fetus diagnosed by use of multiple modalities and managed surgically.

CASE PRESENTATION:

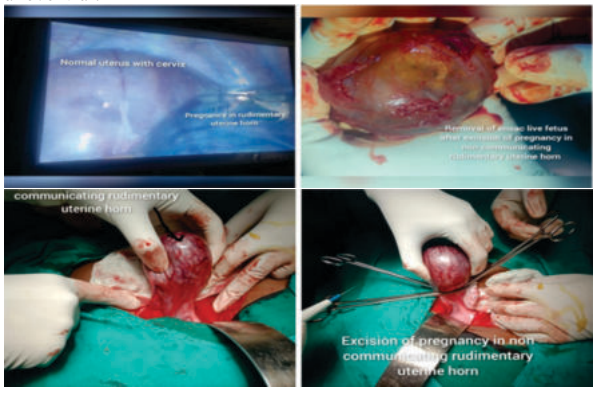
A 22-year-old primigravida with 12 weeks amenorrhea was referred to the emergency room of SVNGMC Yavatmal, with complaint of pain in lower abdomen since 24 hours and spotting per vaginum since 2 hours. she came with a USG sign of right sided adnexal live ectopic gestation. She had been married for 4 year and had never used any contraceptives and gives history of 12weeks of amenorrhea. There was no history of giddiness or fainting episode or abdominal trauma. Her pregnancy test was positive.

On examination, she was afebrile, looked ill, pale, with a pulse of 110 beats/minute and a blood pressure of 100/70 mm of Hg. The abdomen was soft with marked tenderness in the right iliac fossa without rebounds tenderness. Per vaginal examination revealed the uterus bulky and slightly deviated to left side with the os closed and minimal spotting. A cystic mass of approximately 5 x 6 cm was palpated which moved with movement of cervix. Ectopic gestation could not be ruled out primarily but a live fetus of up to approx. 12 weeks without rupture and a vitally stable patient seemed unlikely hence we did a review USG. Review ultrasound of the abdomen could not reveal the exact location of the ectopic gestation but an empty uterine cavity was definitely seen. The ectopic gestational sac was surrounded by irregular thin myometrial tissue with live fetus. So to get a clearer picture we ordered an MRI.



MRI was done s/o extrauterine gestational sac in the right adnexal region with fetal parts noted within. No obvious communication of gestational sac seen with the uterine cavity. The right ovary and fallopian tube were not distinctly visualised. Uterus appeared normal in size and deviated towards left side due to rt adnexal mass. Keeping these findings in mind we decided to proceed with a diagnostic laparoscopy with all arrangements for exploratory laparotomy.

We performed diagnostic laparoscopy with 10 mm laparoscope in the infra-umbilicus and 5 mm trocar in the left lower quadrant. On diagnostic laparoscopy we could visualise a rudimentary horn which was non communicating with cervix .rudimentary horn was dilated and shows dilated vessels. It was connected to the uterus by a thin fibrous band. The uterus appeared normal in shape with bilaterally normal ovaries and bilateral fallopian tube. Decision to proceed with exploratory laparotomy taken on table. Patients' relatives counselled intraoperatively. Non communicating rudimentary horn with pregnancy in situ excised. haemostasis achieved. Procedure uneventful.



DISCUSSION:

Pregnancy in a non-communicating rudimentary horn represents a form of ectopic gestation. The severity of uterine malformation relates inversely to the degree of the fusion defect of the primordial ducts. The majority of rudimentary horns are non-communicating to the main uterine cavity as reported in our case. **Nahum et al** showed that intraperitoneal sperm and ovum transmigration occur respectively in 50 % and 40 % of all cases of human pregnancy[3].

Pregnancy in a rudimentary horn has been reported to be between 1:100000 to 1:140000 pregnancies[3]. Two pregnancies of that series were rudimentary horn pregnancies. In most cases of pregnancy in the rudimentary horn, the pregnancy lasts longer than in tubal pregnancy because of the variable musculature constitution in the thickness and distensibility of the wall of the rudimentary horn. The literature reports that 80 - 90 % of rudimentary horn pregnancies rupture by the second trimester and 10 % reach till term with a 2 % fetal salvage rate[1], where maternal mortality was 5.1 %.[1,2]

Rudimentary horn were often misdiagnosed as ectopic gestation or remain undiagnosed till symptoms appeared as in our case. Patient presented only after she experienced pain in abdomen. Though uterine anomaly can be diagnosed in only 14 % of symptomatic patients by USG, in a review of 266 RHP, sensitivity of USG as a diagnostic tool was shown to be 26 %. Thus, the early diagnosis of RHP remains challenging. Noncommunicating rudimentary horn should be suspected whenever difficulty is encountered during termination of pregnancy as it is easy to miss this condition both clinically and by USG[4,5] Communicating rudimentary horns are less likely to be symptomatic before and during early pregnancy. The pain associated with rudimentary horns in pregnancy commences from the end of the first and beginning of the second trimester. Vaginal bleeding is uncommon unless pregnancy is in the communicating horn. But in our case, patient had spotting per vaginum. Difficulty in diagnosis during early pregnancy is quite common as there are no definite signs to distinguish this abnormal implantation from normal intra-uterine pregnancy.

Accurate diagnosis is possible only after laparotomy for acute abdomen. **Tsafrir et al** suggested the following sonographic criteria for early diagnosis of RHP: a pseudo-pattern of an asymmetrical bi-cornuate uterus, absent visual continuity between the cervical canal and the lumen of the pregnant horn, and the presence of myometrial tissue surrounding the gestational sac.[2] These criteria can help differentiate suspected RHP from cornual, intrauterine and pregnancy in a bicornuate uterus. Magnetic resonance imaging may have a major contribution to the diagnostic evaluation when pregnancy in a rudimentary horn is suspected. It offers multiplanar images without the hazards of ionizing radiation, is non-invasive and is able to show both the internal and external uterine structure.[1,2]

CONCLUSION:

In conclusion, non-communicating rudimentary uterine horn pregnancy is a rare entity associated with life threatening consequences. Early diagnosis and early interventions will avoid maternal morbidity and mortality. These patients should to be screened for urinary tract anomalies. If USG remains inconclusive, the use of magnetic resonance imaging is suggested. Although clinical suspicious is of most importance. On account of difficulty to diagnose rudimentary horn pregnancy, it is required that we as obstetricians keep this differential in our mind specially in ectopic gestation with more than 8 to 10 weeks amenorrhea.

Data Availability:

Data sharing is not applicable to this article as no datasets were generated or analyzed during the current study.

CONSENT:

The patient has given her permission for the publication of this report and the accompanying images. This study was conducted in accordance with the Declaration of Helsinki.

Conflicts Of Interest:

The authors declare that there are no conflicts of interest regarding the publication of this article.

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