



UNRUPTURED PREGNANCY IN NON-COMMUNICATING RUDIMENTARY HORN- A CASE REPORT

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ABSTRACT Pregnancy in the rudimentary horn of unicornuate uterus is extremely rare¹ with an incidence of 1 in 76000 – 1 in 150000(2,3). Unicornuate uterus with rudimentary horn maybe associated with gynecological complications like infertility, endometriosis, hematometra; and obstetric complications like abortions and preterm deliveries⁴. Non communicating rudimentary uterine horn pregnancy is very rare and its diagnosis requires a high index of suspicion and usually missed during a routine ultrasound. Consequences are grave with a slightest error or delay in radiological and clinical diagnosis. Nevertheless, awareness of various forms of unicornuate uteri and rudimentary horn can save lives. We report a case of unruptured non-communicating rudimentary horn pregnancy diagnosed at 17 weeks of gestation in a hemodynamically stable woman who was managed successfully with interdisciplinary coordination. Excision of the rudimentary horn and ipsilateral salpingectomy was done.

KEYWORDS : Rudimentary uterine horn pregnancy, Unicornuate uterus, noncommunicating, unruptured, case report

INTRODUCTION

The incidence of Mullerian duct anomalies is 0.5% to 3.2%⁵. Prevalence of Unicornuate uterus accounts for 2.4 to 13% of all Mullerian anomalies⁴. Rudimentary horn with a Unicornuate uterus results due to failure of complete development of one of the Mullerian ducts and incomplete fusion with the contralateral duct. Rudimentary horn may contain a cavity with endometrium and be the seat of implantation of pregnancy^(6,7). It was hypothesized that pregnancy occurs in a noncommunicating rudimentary horn by transperitoneal migration of the spermatozoa or fertilized ovum⁸.

The majority of patients are asymptomatic. In some cases, rupture of horn occurs during 2nd trimester, resulting in severe intra peritoneal hemorrhage⁹ and significantly increases the risk of maternal morbidity¹⁰. Diagnosis of rudimentary uterine horn is technically difficult with ultrasound, sensitivity is 26%¹¹ which decreases with advancing gestation¹². Early diagnosis of pregnancy in rudimentary horn is a lifesaving measure. Hereby we present a case of an unruptured ectopic pregnancy in noncommunicating rudimentary horn connected to a unicornuate uterus.

Case Report

A 18-year-old G2P1L1, 17weeks 5days GA, came to Delivery Room. She consumed few pills for termination of pregnancy 1 week prior to attending the hospital. Her chief complaints were Bleeding per vagina for 4 days but she did not pass any clots. She had a previous full term normal vaginal delivery 2 years ago with a healthy child of 2.5kgs birth weight, with good APGAR score and her antenatal and postpartum period was uneventful. She has no other comorbidities. Her remote scans show intrauterine gestation of 14weeks GA with? missed abortion.

Admission ultrasound scan shows single intrauterine foetus of average gestational age 14 weeks with absent cardiac activity noted. In view of pregnancy failure, induction with 200µg misoprostol per-vaginally was started. Even after 5 doses of misoprostol, no products of conception expelled. Suspicion was raised about ectopic pregnancy. Examination was reviewed. On abdominal examination, uterus was just palpable. Per-Speculum: single cervical os visualised. Cervix and vagina healthy.

On bimanual examination, a mass of 6X6cms size felt separately from uterus in right fornix, and uterus deviated to left. Left fornix was free. No evidence of cervical motion tenderness or fullness in pouch of Douglas. Suspecting ? rudimentary horn pregnancy ?ovarian pregnancy. Review ultrasound was done by radiologist.



Fig:1 USG findings (TVS) Single fetus with average gestation of 14 weeks noted.



Fig-2: Uterus with no gestational sac communicating with cervix.



Fig-3:(I) Fetus noted to right side of proper uterine cavity with

presence of myometrial tissue surrounding fetus.(ii) Cervical connection to the uterine cavity containing fetus could not be demonstrated

Provisional diagnosis of Unicornuate uterus with pregnancy in rudimentary horn was made. To confirm this diagnosis MRI was done.

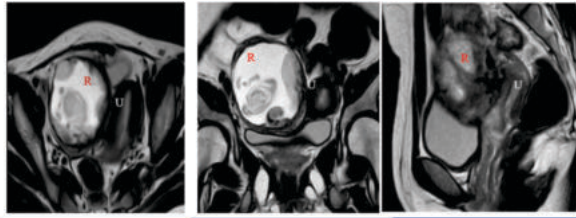


Fig-4: T2 axial image showing unicornuate uterus (U) and Rudimentary horn (R) with thin myometrial wall

Fig-5: T2 coronal image showing rudimentary horn and Unicornuate uterus. No communication noted between cervix and vagina

Fig-6: T2 sagittal image showing Unicornuate uterus communicating with cervix and vagina

Final diagnosis was Unicornuate uterus with single fetus of average gestational age of 14 weeks noted in noncommunicating rudimentary horn with absent fetal cardiac activity. It was confirmed by diagnostic laparoscopy and proceeded for laparotomy under general anaesthesia. The intra operative findings were Unicornuate uterus with right rudimentary horn of uterus containing pregnancy. Left Fallopian Tube & Ovary were Normal. Right Fallopian Tube & Ovary were attached to the rudimentary horn with broad pedicle. No evidence of any collection on the peritoneal cavity observed. Excision of right rudimentary horn along with fallopian tube was done after clamping the pedicle at communication with Unicornuate uterus. Haemostasis secured. Abdomen closed in layers. General Condition was stable throughout the procedure. Final diagnosis is Mullerian anomaly - ESHRE U4a hemi uterus with non-communicating rudimentary horn with pregnancy.



Fig-7: Laparoscopic finding of Left Unicornuate uterus (U) with adnexa and rudimentary horn(R) to the right.



Fig-8: Pregnancy in the right rudimentary horn with adnexa visualized during laparoscopy



Fig-9: Intra operative finding showing an enlarged pregnant Right rudimentary horn with a normal sized uterus.



Fig-10: Site of attachment of Unicornuate uterus with rudimentary horn sutured after excising of horn and right salpingectomy



Fig-12: Resected specimen showing rudimentary horn & Dead fetus with placenta

DISCUSSION

The European Society of Human Reproduction and Embryology (ESHRE) classification is based on the main uterine findings (U0-U6) and cervical/vaginal anomalies (C0-C4; V0-V4). Unicornuate uterus is classified as U4a¹³. The present case is categorized as U4aC0V0. As per American Fertility society, it is a Type 2A Mullerian anomaly that is unicornuate uterus with noncommunicating rudimentary horn¹⁴. About 83% of rudimentary horns are noncommunicating⁶. Mauriceau & Vassal described the first case of the rudimentary horn with pregnancy in 1669¹⁵. Since then, many cases were described in the literature with variable timing of rupture ranging from 5 to 35 weeks, depending on the ability of the rudimentary horn musculature to hypertrophy and dilate to accommodate the fetus. As the uterine wall is thicker and more vascular, bleeding is more severe in rudimentary horn rupture¹⁶.

The first laparoscopic approach of a rudimentary uterine pregnancy was described in 1990¹⁷ and several case reports have been subsequently published. Kadan and Romano described rudimentary horn rupture as the most significant threat to pregnancy and a life-threatening¹⁸. In tubal ectopic, the round ligament is placed downwards where as in the rudimentary horn they are placed laterally¹⁹. The rupture occurs because of the underdevelopment of the myometrium & a dysfunctional endometrium²⁰. The diagnosis remains challenging and is usually misdiagnosed. Fedele et al. have found USG to be useful in diagnosis²¹. Tsafir et al.²² suggest ultrasound criteria for early diagnosis of rudimentary horn pregnancy:

- Pseudo pattern of an asymmetrical bicornuate uterus
- Absent visual continuity between the cervical canal and the lumen of the pregnant horn
- Presence of myometrial tissue surrounding the gestational sac.

Three-dimensional ultrasound and pelvic MRI are the most effective investigation. However, the definitive diagnosis is made either by laparoscopy or laparotomy. It is important to emphasize that though the pregnancy lasts longer than tubal pregnancy because of the variable musculature of the horn, the risk of rupture of a pregnant rudimentary uterine horn and placenta accreta in 2nd trimester is very high⁷. In general, 50% cases rupture in 2nd trimester while 30% go to term with a 0 to 13% salvage rate⁷. If the diagnosis is made early, excision of the rudimentary horn with ipsilateral salpingectomy is recommended²³. A

careful pelvic examination in the 1st trimester showing deviated uterus with palpable contra lateral pelvic adnexa should arouse suspicion of uterine anomaly^{24,25}. Ultrasonography can also pickup this anomaly with reasonable accuracy²⁶.

CONCLUSION

Our case report is to familiarize doctors with this rare presentation of rudimentary horn pregnancy that may be misdiagnosed prior to surgery. We need to have suspicion of rudimentary horn or ovarian pregnancy in cases with failed termination of pregnancy. There is an important role of Ultrasound and MRI in diagnosing rudimentary horn pregnancy. However, the confirmation is via laparoscopy or laparotomy. Surgical management remains the gold standard which includes excision of the horn with excision of ipsilateral fallopian tube to prevent future ectopic pregnancy.

DICLOSURES

Consent:

Both informed and written consent was obtained from the patient four publication of the case.

Conflicts of Interest: none

Source of funding: none

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