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Case Report

Non-communicating rudimentary horn pregnancy managed at a community health center: a case report

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ABSTRACT

Pregnancy in a non-communicating rudimentary horn is a rare and potentially life-threatening form of ectopic pregnancy. Early diagnosis is challenging, particularly in low-resource settings, and delayed management often leads to rupture and massive hemorrhage. A 22-year-old G3P2L1D1 woman with two previous normal vaginal deliveries presented with two months of amenorrhea and spotting per vaginum. Ultrasonography suggested a left non-communicating rudimentary horn ectopic pregnancy of approximately 9 weeks' gestation. Considering the high risk of rupture and limited diagnostic facilities, emergency laparotomy was performed at a community health centre. Intraoperatively, a left non-communicating rudimentary horn pregnancy was confirmed. Excision of the rudimentary. This case highlights that timely diagnosis and definitive surgical management of rudimentary horn pregnancy can be successfully achieved even at a community health center with limited resources, emphasizing the importance of clinical suspicion and prompt intervention.

Keywords: Rudimentary horn pregnancy, Müllerian anomaly, Ectopic pregnancy, Laparotomy, Community health centre

INTRODUCTION

Rudimentary horn pregnancy is an extremely rare entity, with an estimated incidence of 1 in 76,000 to 150,000 pregnancies.[1] It is commonly associated with a unicornuate uterus, a type of Müllerian duct anomaly. Most rudimentary horns are non-communicating and incapable of supporting a growing pregnancy, leading to rupture in 70–90% of cases, usually during the second trimester.[1]

Diagnosis is challenging due to nonspecific clinical presentation until complications and limited sensitivity of ultrasonography. Advanced imaging modalities such as magnetic resonance imaging (MRI) and 3D-4D imaging can aid diagnosis but are often unavailable in peripheral or rural healthcare settings. We report a rare case of first-trimester non-communicating rudimentary horn pregnancy successfully managed surgically at a community health centre.

CASE REPORT

A 22-years old G3P2L1D1 woman with a history of two previous normal vaginal deliveries presented with two months of amenorrhea and spotting per vaginum in an outdoor patient facility. There was no associated abdominal pain, dizziness, or syncopal episodes or altered vital signs. She had no significant medical or surgical history.

An ultrasonography report showed a gestational sac corresponding to 9 weeks' gestation, located separate from the uterine cavity not communicating with the cervical canal, suggestive of a left non-communicating rudimentary horn ectopic pregnancy.

Given the diagnosis and the high risk of rupture, along with the absence of advanced imaging and laparoscopic facilities, the patient was planned for emergency exploratory laparotomy after informed consent.

Intraoperatively, a left-sided non-communicating rudimentary horn pregnancy was confirmed (Figure 1). The horn was attached to the unicornuate uterus, with no communication with the uterine cavity. The left fallopian tube was attached to the rudimentary horn, while the right tube and ovary were normal.

The rudimentary horn along with the ipsilateral fallopian tube was excised, and hemostasis was secured (Figure 2). The postoperative course was uneventful, and the patient was discharged in stable condition with counseling regarding future pregnancies and early antenatal surveillance.

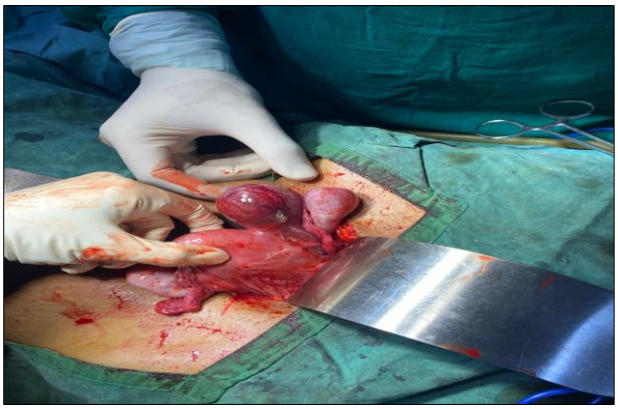

Figure 1: Intraoperative picture.

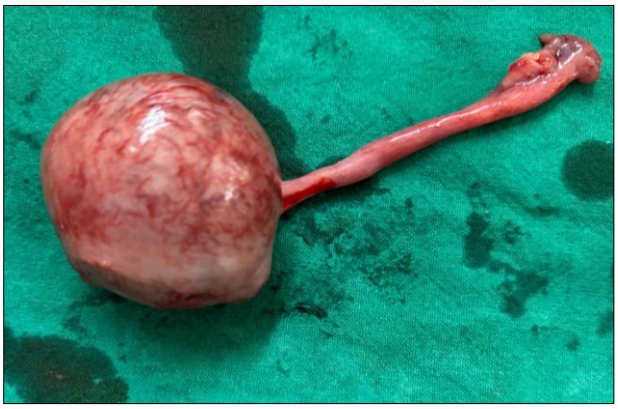

Figure 2: Excised rudimentary horn.

DISCUSSION

Uterine anomalies result from abnormal development of the embryonic structures called Mullerian ducts during fetal life. A unicornuate uterus results from an incomplete development and failure of fusion with the opposite side of a Müllerian duct.

Approximately two-thirds of women with a unicornuate uterus may also have a second smaller piece of a uterus, called a rudimentary horn. The rudimentary horns may contain lining of the uterus, called endometrium that might communicate with the contralateral uterus. 85% of rudimentary horn pregnancies occur in non-communicating rudimentary horns.[2] Despite the absence of direct communication, pregnancy can occur through transperitoneal migration of sperm or fertilized ovum from the contralateral fallopian tube.

The rudimentary horn is structurally incapable of supporting a growing pregnancy due to poor muscular development and limited distensibility. Consequently, around 70-90% of total ruptures occur before 20 weeks and these lead to catastrophic intraperitoneal hemorrhage and remains a significant cause of maternal morbidity and mortality, particularly in low-resource settings where access to emergency care may be delayed.[3]

Diagnostic challenges

Early diagnosis of rudimentary horn pregnancy remains difficult. Ultrasonography, though widely available, has a reported sensitivity of only 26% to 33%.[4] Typical sonographic features include an empty uterine cavity, a gestational sac surrounded by myometrial tissue separate from the uterus, and absent continuity between the cervical canal and the pregnant horn. However, these findings are often subtle and may be misinterpreted as tubal ectopic pregnancy or cornual pregnancy.

MRI provides superior anatomical delineation of uterine anatomy and is considered the diagnostic modality of choice, particularly in stable patients and resource rich centers. However, MRI is frequently unavailable at peripheral and rural healthcare centers, including community health centers. In present case, reliance on basic ultrasonography and strong clinical suspicion played a pivotal role in early diagnosis.

Comparison with other reported cases

Most reported cases of rudimentary horn pregnancy present after rupture, often in the second trimester, with acute abdomen and hemodynamic instability, and are managed at tertiary care centers with advanced diagnostic and surgical facilities. In contrast, our patient presented in the first trimester with minimal symptoms and was diagnosed prior to rupture. Unlike many reported cases involving primigravida or infertile women, this patient was multiparous with two previous normal vaginal deliveries, which contributed to low perceived risk and initial reluctance toward surgical intervention. Furthermore, definitive management was successfully carried out at a community health centre without access to MRI or laparoscopic facilities, relying on ultrasonographic suspicion and timely clinical decision-making. Additionally, while some cases managed conservatively or

medically, definitive surgical excision was chosen in this case to prevent rupture and recurrence.

Challenges faced in our case

Management was challenging due to limited diagnostic facilities, including non-availability of MRI and 3D/4D ultrasonography, and absence of laparoscopic surgical options, necessitating open surgery. Referral to a higher center could have increased the risk of rupture.

Additionally, the patient belonged to a low socioeconomic background from a rural area with limited health literacy. Having experienced two previous uncomplicated vaginal deliveries, the patient and her family initially found it difficult to understand the life-threatening nature of the condition and were hesitant to consent for emergency surgery, as she was relatively asymptomatic apart from spotting. Extensive counseling and family involvement were required to obtain informed consent without delaying definitive management.

CONCLUSION

Non-communicating rudimentary horn pregnancy is a rare but potentially fatal condition. High clinical suspicion, early diagnosis, and prompt surgical management are crucial. This case demonstrates that successful management is possible even at a community health centre in the absence of advanced diagnostic and minimally invasive surgical facilities.

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