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Original Research Article

A Rare Case of Acute Abdomen in Second Trimester: Ruptured Accessory Horn Pregnancy

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Abstract:

Background: Mullerian anomalies, including unicornuate uterus with an accessory horn, are rare congenital uterine malformations associated with various obstetric complications. Early diagnosis remains challenging, often leading to emergent presentations such as ruptured ectopic pregnancies.

Case Presentation: A 24-year-old primigravida presented with hypovolemic shock at 18 weeks gestation. Initial differential diagnoses included acute intestinal perforation, ruptured hemorrhagic cyst, and ruptured abdominal ectopic pregnancy. Emergency ultrasound revealed a ruptured uterine horn with hemoperitoneum. Exploratory laparotomy confirmed the diagnosis of unicornuate uterus with an accessory horn. Surgical resection and hemostasis were achieved, and the patient recovered uneventfully.

Conclusion: The prevalence of congenital uterine anomalies, though relatively low, underscores the importance of early diagnosis and prenatal imaging, particularly in the context of emergent obstetric presentations. Diagnostic modalities such as transvaginal ultrasound, three-dimensional ultrasonography, or MRI scans can aid in timely identification, potentially preventing catastrophic outcomes associated with ruptured uterine horns.

Keywords: Mullerian anomalies, unicornuate uterus, accessory horn, ruptured ectopic pregnancy, prenatal imaging.

Introduction

Mullerian anomalies, stemming from defects in fusion or canalization of the Mullerian ducts during embryonic development, present a diverse spectrum of uterine malformations ranging from minor deviations in uterine cavity shape to severe hypoplasia or complete agenesis [1].

These anomalies are associated with various obstetric complications, including first and second trimester miscarriages, preterm birth, fetal growth restriction, pre-eclampsia, fetal malpresentation, Cesarean section, postpartum hemorrhage, and the critical risk of uterine rupture [2].

The recognition and understanding of Mullerian anomalies have advanced significantly over recent years. However, the diagnosis and management of these conditions remain challenging, particularly in cases where complications arise during pregnancy. Early identification through comprehensive prenatal imaging is crucial to prevent adverse maternal and fetal outcomes associated with these anomalies [3].

Case Presentation: A 24-year-old primigravida, at 18 weeks gestation, presented to the emergency department of a tertiary care center in Maharashtra with symptoms suggestive of hypovolemic shock.

She reported sudden onset generalized abdominal pain, accompanied by dizziness, vomiting, and a syncopal episode lasting for approximately one hour. Prior to arrival, the patient had received intravenous fluids at a referral center but remained hypotensive upon admission.

On initial assessment, her general condition was moderate, with a pulse rate of 126 bpm and blood pressure reading at 90/40 mmHg. Physical examination revealed a conscious but profoundly pale patient with abdominal distension and generalized tenderness upon palpation. Vaginal examination indicated a closed cervix with left forniceal fullness and positive cervical motion tenderness.

Differential diagnoses including acute intestinal perforation, ruptured hemorrhagic cyst, and ruptured abdominal ectopic pregnancy were

considered, given the clinical presentation and gestational age. Previous antenatal care (ANC) workup and ultrasound scans had reportedly been unremarkable.

Management:

Upon admission, two wide-bore cannulas were promptly inserted, and intravenous fluid resuscitation was initiated. Blood workup revealed significant findings, with a hemoglobin level of 6.6 g/dL, total leukocyte count of 14,140/mm³, and a platelet count of 2.17 x 10^5/mm³. Emergency ultrasound imaging revealed massive echogenic fluid obscuring the view, along with the presence of a single intrauterine fetus showing no cardiac activity on transabdominal sonography (TAS), and an absence of fetus within the uterine cavity on transvaginal sonography (TVS). A final report suggested a single intrauterine fetus with a suspicious rent in the uterine fundus, accompanied by hemoperitoneum in the hepatorenal, splenorenal, and paracolic regions.

The patient was prepared for exploratory laparotomy, which revealed hemoperitoneum totalling 2000 ml. intraoperatively, a unicornuate uterus with an accessory non-communicating horn was identified, with rupture noted at its fundus. The gestational sac was found in the abdominal cavity, while the placenta was situated within the accessory horn. Surgical intervention involved resection of the accessory horn, along with a left salpingectomy, to achieve hemostasis. The right fallopian tube and both ovaries were preserved.

During the procedure, transfusion of 2 units of packed red blood cells (PRCs) and 4 units of fresh frozen plasma (FFP) was administered, followed by an additional 2 units of PRCs on post-operative days 1 and 2. The post-operative period was uneventful, and the patient was discharged on post-operative day 7. Histopathological examination confirmed the resected segment as the right accessory horn of the uterus with products of conception (POC) in situ. This case underscores the critical importance of prompt recognition and surgical management of Mullerian anomalies presenting with obstetric emergencies to optimize maternal and fetal outcomes.

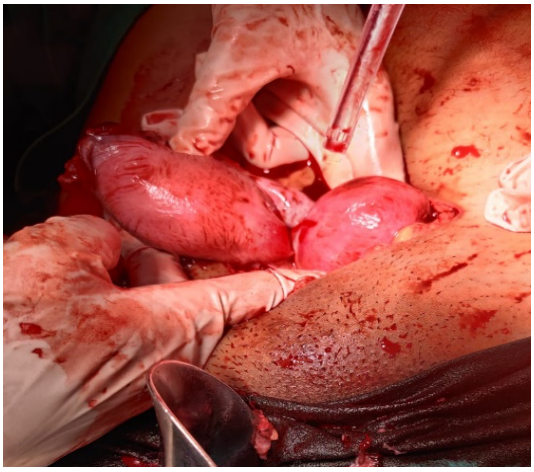

Figure 1: Bicornuate uterus

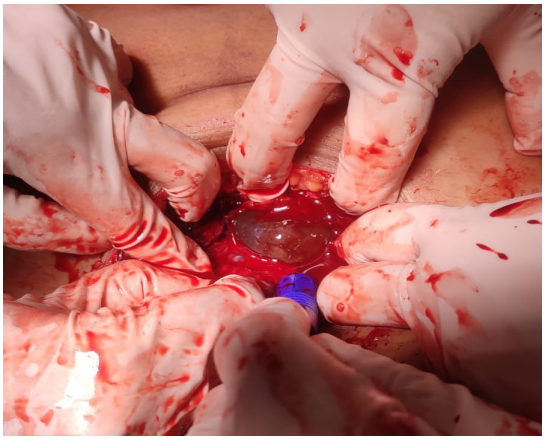

Figure 2: Gestation sac in abdomen

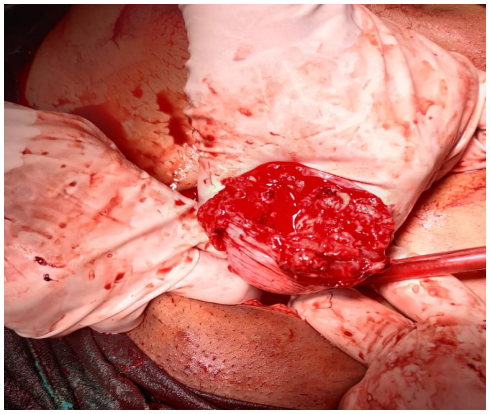

Figure 3: Ruptured Accessory Horn

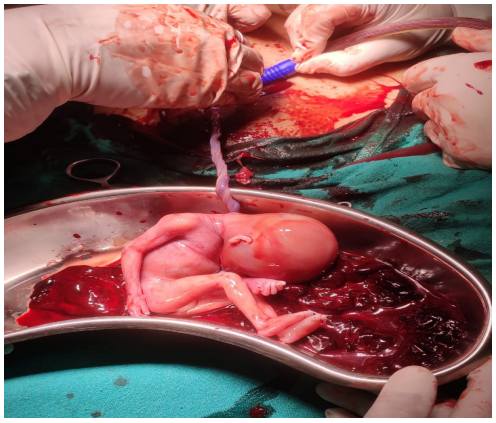

Figure 4: Fetus in abdominal cavity

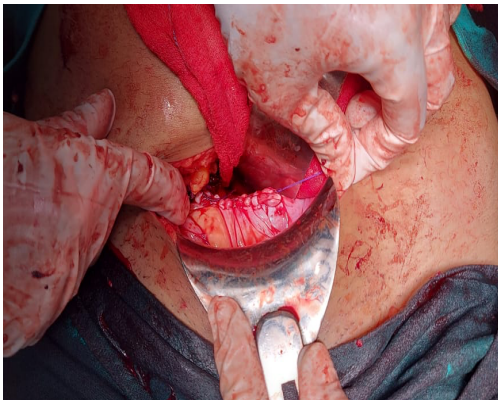

Figure 5: Post resection hemostasis

Discussion

Congenital uterine anomalies, including unicornuate uterus with an accessory horn, pose significant challenges in diagnosis and management, particularly when presenting as obstetric emergencies.

The prevalence of these anomalies varies among populations, with estimates suggesting higher rates in infertile individuals compared to the general population [1]. In the case presented, the patient exhibited symptoms of hypovolemic shock, necessitating urgent intervention to identify and address the underlying cause. Unicornuate uterus with an accessory horn represents an uncommon anomaly resulting from incomplete development of the Müllerian ducts during embryogenesis [2].

This anomaly involves partial fusion of one Müllerian duct with the contralateral duct, leading to the formation of an accessory horn. The morphology of the accessory horn may vary, ranging from a functional cavity to a solid muscular mass devoid of endometrium [3].

Diagnosis of unicornuate uterus with an accessory horn often occurs incidentally or during pregnancy, typically when complications such as rupture occur. Despite advances in imaging modalities, pre-

rupture diagnosis remains challenging, particularly in the absence of routine pre-pregnancy or early pregnancy diagnostic workup [4]. In the presented case, symptoms of hypovolemic shock and peritoneal irritation prompted the use of ultrasonography for initial evaluation, highlighting the importance of clinical acumen in identifying and managing such emergencies. Various imaging techniques, including transvaginal ultrasound, three-dimensional ultrasonography, and magnetic resonance imaging (MRI), can aid in the early detection of uterine anomalies, including accessory horns [5]. However, the utility of these modalities may be limited in emergent settings, emphasizing the need for heightened awareness among healthcare providers and patients regarding the significance of prenatal and early intra-natal imaging.

Conclusion

In conclusion, unicornuate uterus with an accessory horn represents a rare but clinically significant congenital uterine anomaly associated with obstetric complications, including rupture. Early recognition and diagnosis are paramount for timely intervention and optimal outcomes.

Enhanced education and awareness among healthcare providers and patients regarding the importance of prenatal imaging are crucial in improving the management of such anomalies.

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