

Rupture of Noncommunicating Rudimentary Horn of Uterus

Abstract

Rudimentary horn pregnancy though an extremely rare condition can be associated with high morbidity. We report a case of ruptured noncommunicating rudimentary horn with unicornuate uterus.

Keywords: *Noncommunicating, rudimentary, rupture*

Introduction

Unicornuate uterus is a müllerian duct abnormality-type 2 (classification of müllerian anomalies American Society of Reproductive Medicine) with unilateral hypoplasia or agenesis that can be further subclassified into communicating, noncommunicating, no cavity, and no horn.^[1] The true prevalence of müllerian duct abnormalities is not well established because a majority of patients are asymptomatic.^[2] A unicornuate uterus accounts for 2.4%–13% of all müllerian anomalies.^[3] Rudimentary horn pregnancy is extremely rare ranging between 1 per 76,000 and 1 per 140,000 pregnancies; yet, it is associated with high rate of morbidity and mortality as a sequence of rudimentary horn rupture and massive hemoperitoneum.^[4] We report a case of ruptured noncommunicating rudimentary horn with unicornuate uterus.

Case Report

A 31-year-old G2P1L1 at 29 weeks of gestation presented to the emergency ward of our tertiary care hospital with a diagnosis of hemorrhagic shock. She was a known case of hypothyroidism on 50 mcg thyroxine. She had undergone a cesarean section 4 years back for fetal distress at term. She had two antenatal checkups earlier at a rural primary health center and had received tetanus immunization and was taking iron, calcium supplements. Her ultrasound examination at 18 weeks of gestation was normal. She suddenly

developed hypotension, tachycardia, and hypovolemic shock and was brought to our hospital.

On examination, she was in hypovolemic shock with severe pallor and rapid (132 bpm) feeble pulse. Her blood pressure was 50 mm systolic by the pulse. Respiratory rate was 28 per min. The abdomen had a transverse scar of the previous cesarean. It was tense, distended, and tender. Uterine contour could not be appreciated, and fetal heart sounds not heard. Pelvic examination revealed posterior uneffaced cervix and fullness in the fornices. There was no vaginal bleeding. She was taken for immediate laparotomy with simultaneous resuscitation. Her investigations showed hemoglobin: 3.3 g/dl, total leukocyte count: 7300/mm³, platelets: 76,000/mm³ (manually corrected: 140,000/mm³), coagulation profile was normal, arterial blood gas showed metabolic acidosis, ultrasound showed gross hemoperitoneum, and fetus in the peritoneal cavity.

At laparotomy, there was a rupture of the right rudimentary noncommunicating horn of a unicornuate uterus [Figure 1] with the dead fetus *en-sac* lying free in the peritoneal cavity with hemoperitoneum of about 3 L. The fetus weighed 620 g. The ruptured horn was excised, hemostasis achieved, abdomen closed in layers with a drain *in situ*. Five units of packed cells, four units of fresh frozen plasma, and two units of random donor platelet were transfused. She stayed in Intensive Care Unit on ventilator and inotropes for 48 h.

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**Sunil Kumar Juneja,
Shweta Gupta,
Pooja Tandon,
Neha Gumber**

*Department of Obstetrics
and Gynaecology, Dayanand
Medical College and Hospital,
Ludhiana, Punjab, India*

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Address for correspondence:
Dr. Pooja Tandon,
Department of Obstetrics
and Gynaecology, Dayanand
Medical College and Hospital,
Ludhiana, Punjab, India.
E-mail: drpoojatandon77@
yahoo.com

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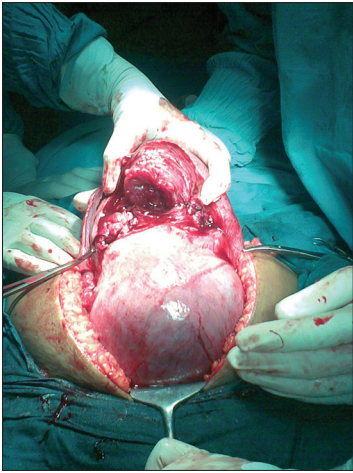


Figure 1: Intra-operative picture showing ruptured horn of the uterus being sutured

Thereafter, her postoperative recovery was satisfactory. Her ultrasound abdomen did not show any urinary tract anomalies. She was discharged after stitch removal on the tenth postoperative day.

Discussion

Pregnancy in a noncommunicating rudimentary horn is a rare but serious complication of müllerian duct anomalies. Early diagnosis of rudimentary horn pregnancy is challenging; a few cases were diagnosed in the first trimester and most of them were asymptomatic or were known to have a uterine abnormality.^[5,6] The sensitivity of ultrasound is only 26% and sensitivity decreases as the pregnancy advances.^[7] There are no definitive clinical criteria to detect this life-threatening condition in case of emergency, and diagnosis can be difficult because the enlarging horn with a thinned myometrium can obscure the adjacent anatomic structures. Magnetic resonance imaging has proven to be a very useful, noninvasive tool for the diagnosis of müllerian abnormalities; however, this expensive modality is resorted to only when rudimentary horn pregnancy is suspected either by history or by early suspicious ultrasound examination.^[8,9] The timing of rupture varies from 5 to 35 weeks depending on the horn musculature and its ability to hypertrophy and dilate 70%–90% rupture before 20 weeks and can be catastrophic. As the uterine wall is thicker and more vascular, bleeding is more severe in rudimentary horn pregnancy rupture.^[10]

Most of the cases remain undiagnosed until it ruptures and presents as an emergency. Cases of late and false diagnosis leading to uterine rupture have been reported. Use of labor induction agents for termination of pregnancy in a rudimentary horn is unsuccessful and can lead to rupture of the horn. The primary strategy of management of rudimentary horn is surgical removal, even in unruptured cases.

Early diagnosis and laparoscopic excision of the rudimentary horn have been reported. Medical management with methotrexate and its resection by laparoscopy is also reported. Successful treatment with methotrexate administration, when detected at an early gestational week, has been reported. A case of pregnancy progressing to the third trimester and resulting in live birth after the cesarean section has been documented. Renal anomalies are found in 36% of cases; hence, it is mandatory to further assess these women.

Immediate surgery is recommended whenever a diagnosis of pregnancy in a rudimentary horn is made even if it is unruptured. Management with rudimentary horn excision remains the gold standard method to save the patient with a ruptured horn.

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Conflicts of interest

There are no conflicts of interest.

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