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Letter to Editor

Pregnancy in the Unicornuate Uterus and Non-Communicating Rudimentary Horn

Dear Editor

Congenital uterine abnormalities affect 1-10% of the general population and are caused by defective paramesonephric duct fusion or resorption during embryonic stages. Rudimentary uterine horn pregnancy rarely continues until the third trimester and frequently ruptures in the second trimester, resulting in intraperitoneal hemorrhage and in extreme cases, endangering the patient's life.[1] Patients with a unicorn uterus are more likely to experience preterm labor, endometriosis, and breech presentation.[2]

A 12-year-old Afghan woman, who became pregnant after her first menstruation, was admitted to the Emergency Department of Hazrat Zahra Hospital (Fariman, Iran), in June 2022, with CO poisoning following a house fire. She was primigravida at 31 weeks and six days of pregnancy (based on 12th-week ultrasound) with no notable past medical history. Her marriage, though religiously performed, was not legally recognized. The fire started at night, while the patient was sleeping. Her husband called the emergency medical service (EMS) the next morning and reported his wife's chief complaint of confusion and dyspnea. At admission, she was confused and disoriented, with a pulse rate (PR) of 120, a blood pressure (BP) of 80/60 mmHg, and an Oxygen saturation level (O_2Sat) of 93%. Besides, her initial fetal heart rate (FHR) was 100 beats per minute (bpm).

After receiving oxygen therapy, the patient regained full consciousness, and her vital signs changed to PR=100, BP=100/80 mmHg, O_2Sat=98%, and FHR=140 bpm. She was then referred to the Imam Reza Hospital (Mashhad, Iran), for further evaluation and admission to the intensive care unit (ICU).

Upon her admission to the hospital, a toxicologist, an emergency medicine specialist, and an obstetrician specialist visited the patient. She was completely conscious and answered questions well. She had no complaints of bleeding, pain, or other pregnancy problems. She underwent several ultrasound scans during pregnancy, however, none of them had diagnosed the anomaly.

Although her vital signs (body temperature, pulse rate, respiration rate, and blood pressure) were stable at the time of her initial admission, we were unable to detect the FHR. Therefore, an urgent ultrasound imaging was performed, which confirmed fetal death. Subsequently, it was decided to terminate the pregnancy using a misoprostol injection and an extra-amniotic Foley catheter.

At 6:00 PM, the patient was given an initial dose of misoprostol (Aburaihan Co., Iran), but the cervical canal was totally closed, making it impossible to place a Foley catheter. Four hours after taking misoprostol, at 10:00 PM, the patient complained of mild abdominal pain. On clinical examination, she was completely pale, her PR was 170, and her BP was 80/50 mmHg. The abdomen was generalized tense, and the fundal height was almost 30 weeks. An urgent bedside ultrasound was requested, and the findings revealed a large amount of free fluid in the abdomen. Immediately, two large bores were taken from the patient, and 2 L crystalloid fluid were promptly infused. Simultaneously, four units of blood were also cross-matched for transfusion.

Five hours after administrating the initial dose of misoprostol, the patient was quickly transferred to the operating room for an urgent laparotomy due to the suspicion of a uterine rupture.

During the laparotomy, 2.5 L of hemoperitoneum and 500 mL of blood clots were removed, and a deceased fetus with a birth weight of 1450 g, which was floating in the abdominal cavity in its amniotic sac, was extracted. It was discovered that the unicornuate uterus had a rupture on the non-communicating horn and had active bleeding (figures 1 and 2). The ovaries and fallopian tubes were intact.

The rudimentary horn was excised, and the bleeding was controlled. Throughout the procedure, the patient received a total of three units of packed cells, three units of platelets, and three units of fresh frozen plasma. The postoperative recovery of the patient went uneventful, and she recovered well. Seven days later, the patient was discharged from the hospital in good general condition.

Figure 1: Intraoperative photograph shows the posterior view of the unicorn uterus with the rudimentary horn, which was ruptured and caused an intraperitoneal hemorrhage.

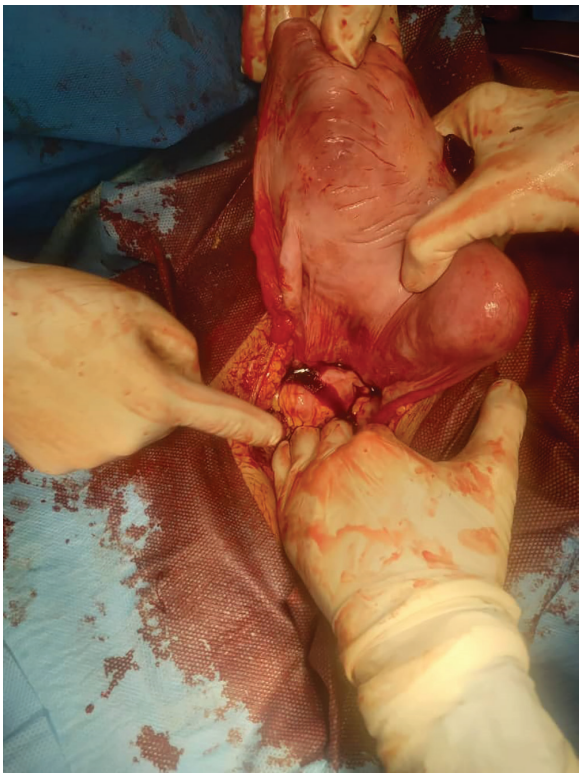

Figure 2: Intraoperative photograph shows the anterior view of the unicornuate uterus with a rupture on the non-communicating horn with active bleeding. The index finger indicates the site of rupture.

The protocol of the present study was approved by the Research Ethics Committee of Mashhad University of Medical Sciences, Mashhad, Iran, (IR.MUMS.REC.1401.307). Written informed consent was obtained from the patient's legal guardian. The form specifies that the patient's identity will remain confidential, and only her medical history and images will be used for educational and research purposes.

The early diagnosis of pregnancy before rupture in the rudimentary horn significantly reduced maternal mortality.[3] Similarly, Hafizi and Ghomian reported a 24-year-old primigravida with a 12-week gestational age and a twin pregnancy in the unicornuate uterus and non-communicating rudimentary horn.[4]

In conclusion, rudimentary uterine horn pregnancy is a rather rare condition that might be challenging to diagnose prior to surgery and is usually accompanied by substantial maternal risks and unfavorable fetal outcomes. Early detection and treatment before rupture could decrease the mortality rate. Pregnancy in rudimentary uterine horn should be considered as a differential diagnosis in pregnant women with acute abdominal pain to prevent maternal and fetus morbidity and mortality.

Keywords ● Uterus ● Pregnancy ● Parturition ● Pregnancy complications

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Authors' Contribution

S.D: Study design and drafting; M.M: Study design, reviewing the manuscript; N.D: Study design and drafting. All authors have read and approved the final manuscript and agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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