Unilateral twin pregnancy in uterus didelphys of a multigravida woman concomitant with placenta previa: A case report

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ABSTRACT

Background: Uterus didelphys, also known as a double uterus is a rare Müllerian duct anomaly (MDA). This case report presents a unique instance of uterus didelphys in a multigravida woman who also had placenta previa. Remarkably, she carried her twin pregnancy to full term and delivered via Cesarean section.

Case: A 32-year-old woman, gravida VII, para V, abortion I with a gestational age of 40 weeks and five days based on a reliable last normal menstrual period (LNMP) presented to Salale University Comprehensive Specialized Hospital.

She reported experiencing vaginal bleeding and a pushing-down sensation for the past two hours. An obstetric ultrasound revealed a live twin intrauterine pregnancy. Both twins were in cephalic presentation, and the placenta was posterior, completely covering the internal cervical os (placenta previa). A Pfannenstiel incision was performed, revealing an intact, gravid uterus on the left side with a well-formed lower uterine segment, and a separate, empty uterus on the right side. Each uterus had a single fallopian tube and ovary. The uterine cavities were distinct, each with its own cervix, which both opened into a single vaginal canal. A lower uterine segment transverse cesarean section was performed, resulting in the delivery of two female twins weighing 1600g and 1700g, respectively. The postoperative period was smooth.

Conclusion: This case report contributes to the existing literature on the management of a very rare obstetric condition. Timely identification of uterus didelphys is crucial for providing comprehensive care throughout pregnancy and delivery, thereby mitigating potential adverse outcomes. Consequently, prioritizing the availability of obstetric ultrasound at health centers is essential for identifying the various types and anatomical variations of uterus didelphys during antenatal care (ANC) follow-up. This will enable healthcare providers to effectively prepare and advise pregnant women.

Keywords: Uterus didelphys, Placenta previa, Multigravida, Twin pregnancy

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BACKGROUND

Uterus didelphys, also known as a double uterus, is among the rarest Müllerian duct anomalies (MDAs). These defects can arise from the failure of development, fusion, canalization, or reabsorption processes that typically occur between the sixth and twelfth weeks of gestation (1). The estimated incidence of these anomalies

in the general female population ranges from 0.5% to 5% (2). While most women with uterus didelphys are asymptomatic, some may experience dyspareunia or dysmenorrhea, particularly when a longitudinal vaginal septum is present to varying degrees. Infrequently, cases of genital tumors, hematocolpos or hematometrocolpos, and renal abnormalities have been observed in association with uterus didelphys (3,4). Despite these potential issues, many women with uterus didelphys experience uncomplicated pregnancies and successful reproduction (3–5).

Twin pregnancies in women with uterus didelphys are exceptionally rare and pose unique obstetric challenges (6). For instance, complications documented in the literature include breech presentation at term requiring Cesarean section (7), abortion of one twin (8), growth restriction in one twin (6), and preterm pre-labor rupture of membranes followed by threatened preterm labor in one uterus (9). Specifically, twin pregnancies in women with uterus didelphys are very rare and present unique obstetric challenges (6). Given these factors, delivery planning for twin pregnancies in women with uterus didelphys should be considered high-risk and individualized to each patient to achieve the best possible outcomes.

Overall, a multidisciplinary approach is essential throughout the pregnancy and delivery process due to the potential risks and challenges for both the mother and the newborns in pregnancies involving uterus didelphys (10). Therefore, this case report details a rare instance of uterus didelphys in a multigravida woman with a prior abortion who achieved a successful twin pregnancy, carried it to term, and delivered via Cesarean section.

Clinical findings

This 32-year-old woman, gravida VII, para V, abortion I with a gestational age of 40 weeks and five days based on a LNMP, presented to the labor ward of Salale University Comprehensive Specialized Hospital. She had been receiving ANC at a nearby health center. Although the pregnancy was unplanned, it was wanted. Her chief complaints upon arrival were vaginal bleeding and a pushing-down sensation experienced for the past two hours. The bleeding had begun painlessly approximately one hour before the onset of back and lower abdominal pain. She had no known pre-existing medical conditions.

Upon physical examination, the patient appeared to be in labor pain and presented with the following vital signs: blood pressure of 130/80 mmHg, pulse rate of 88 beats per minute, respiratory rate of 23 breaths per minute, temperature of 36.8°C, and oxygen saturation of 92%. Obstetric palpation (Leopold maneuver) revealed a term-sized gravid uterus with a bulky, non-ballotable fetal pole at the fundus. Multiple fetal parts were palpable, with the first fetal heartbeat at 138 beats per minute and the second at 152 beats per minute. Hard, round, and floating fetal parts occupied the lower uterine segment. She was experiencing two moderate uterine contractions every 10 minutes. The vulva and perineum were soaked with bright red vaginal bleeding, which included clots. A digital pelvic examination was not performed. Examination of other systems revealed no significant findings. On laboratory investigation, her blood type was O positive (O+), and her complete blood count (CBC) results were within the normal range. An obstetric ultrasound revealed a live twin intrauterine pregnancy, with both twins in cephalic presentation. The placenta was posterior and completely covered the internal cervical of (placenta previa). The amniotic fluid index (AFI) was 10.3 cm for one twin and 8.4 cm for the other. No gross fetal congenital anomalies were observed.

Two units of cross-matched blood were prepared, and written consent for an emergency Cesarean section was obtained from the mother before she was taken to the operating room. Following the administration of spinal anesthesia, the abdomen was cleaned and draped. A Pfannenstiel incision was made, revealing an intact gravid uterus with a well-formed lower uterine segment and a separate, empty uterus on the right side. Each uterus had a single fallopian tube and ovary, and the uterine cavities were distinct, each with its own cervix,

both opening into a single vaginal canal (Figures 1 and 2). A lower uterine segment transverse Cesarean section was performed, resulting in the delivery of the first female twin weighing 1600g with Apgar scores of 6 and 7 in the first five minutes. The second female twin weighing 1700g with Apgar scores of 7 and 8 in the first five minutes. Two separate placentas were delivered via cord traction after the administration of 10 International Units (IU) of intramuscular (IM) oxytocin. The uterus was mopped and sutured in two layers. A bilateral tubal ligation, as requested by the mother, was performed using a modified Pomeroy technique. The abdomen was closed in layers after ensuring hemostasis. The postoperative period was uneventful, and the mother was discharged from the obstetric ward to join her babies in the neonatal intensive care unit (NICU).

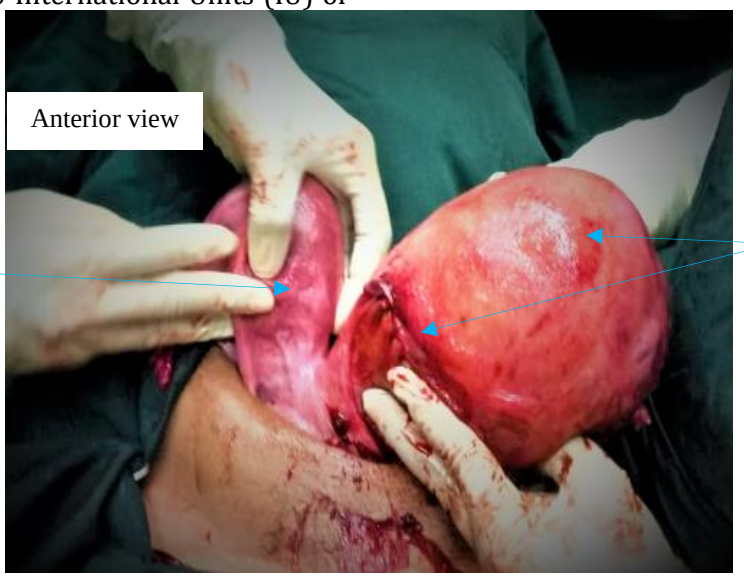

Figure 1: Anterior view of Uterus Didelphys with left side unilateral gravid uterus

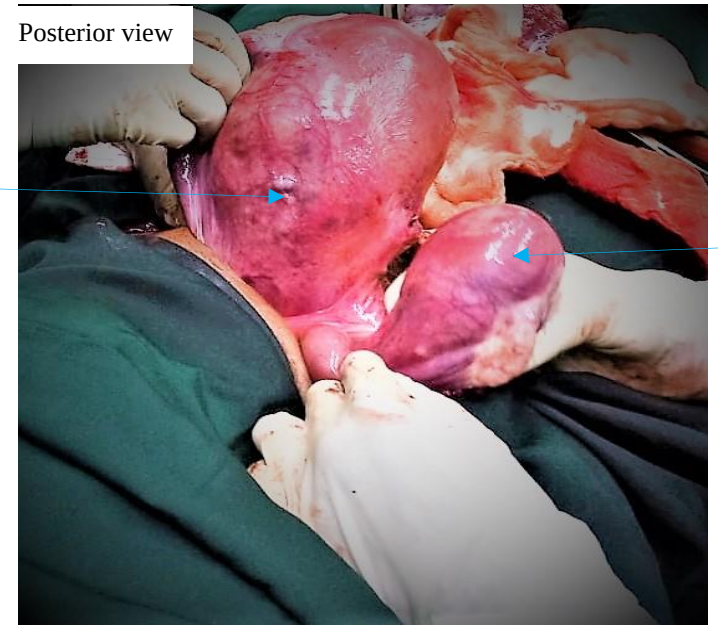

Figure 2: Posterior view of Uterus Didelphys with left side unilateral gravid uterus

DISCUSSION

Congenital anomalies of the reproductive system are often associated with an increased risk of Cesarean delivery, dystocia, malpresentation, and preterm labor. Women with such anomalies require meticulous ANC and appropriate diagnostic tools. Three-dimensional ultrasound (3D-US) demonstrates high accuracy in diagnosing uterine anomalies, exhibiting a strong level of agreement with Magnetic Resonance Imaging (MRI) in classifying various anomaly types (11). Furthermore, comprehensive imaging to delineate the specific anatomical features of the anomaly is essential for effectively counseling pregnant women (6). However, the current patient reported not having undergone any such examinations during her antenatal care visits. This was attributed to the lack of these diagnostic tools at the health center where she received her ANC follow-ups. This situation underscores the critical need for making modern obstetric diagnostic technologies accessible in all healthcare facilities to enable the early detection of these anomalies.

The ultrasound evaluation revealed placenta previa (a posterior placenta completely covering the internal os), which necessitated a Cesarean section. Concordantly, a previous case report documented placenta previa in a singleton term pregnancy within a uterus didelphys (12). Consequently, the diagnosis of placenta previa in the context of uterus didelphys emphasizes the critical role of ultrasound evaluation during pregnancy in identifying potential complications. Furthermore, the necessity of Cesarean section in this case underscores the need for meticulous management of pregnancies complicated by anatomical anomalies.

Despite the limited evidence regarding twin pregnancies in unilateral uterus didelphys, as observed in this case, there have been various reports of twin pregnancies with one fetus in each uterine cavity (7–9). In addition, in the current case, the neonates weighed 1600g and 1700g at birth. Current evidence suggests a higher risk of growth restriction in pregnancies involving uterus didelphys (7).

Conclusion

This case report adds to the body of knowledge regarding the management of a very rare obstetric condition. Prompt identification of uterus didelphys is crucial for delivering comprehensive care throughout pregnancy and childbirth, thereby reducing associated adverse outcomes. Therefore, it is essential to prioritize the availability of obstetric ultrasound at health centers to detect the various types and anatomical variations of uterus didelphys during ANC follow-up, empowering healthcare providers to prepare and counsel pregnant women effectively. Moreover, healthcare professionals should maintain a high index of suspicion for uterus didelphys to facilitate early diagnosis. Furthermore, considering the current scarcity of literature on uterus didelphys, additional research is warranted to estimate its prevalence and improve the prediction of its outcomes.

List of abbreviations

ANC-Antenatal Care; CBC-complete blood count; IM-Intramuscular; IU-International Unit; LNMP-Last Normal Menstrual Period; MDA-Mullerian duct anomalies; MRI-Magnetic Resonance Imaging;

Declaration

The authors declare that there are no conflicts of interest in this work.

Ethical consideration

Written informed consent was obtained from the patient for the anonymized information to be published in this article. Additionally, institutional approval was obtained to publish the case details.

Availability of data and materials

Data on the case, clinical information, informed consent forms, and images are available for review from the corresponding author upon request.

Authors' contributions

YAD- Led the surgery procedure and managed the patient. DGT- Prepared the draft of the

manuscript. All authors critically reviewed and confirmed the submission of the manuscript and approved the final version.

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