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Case Study
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BREECH PRESENTATION DUE TO AN UNICORNUATE UTERUS WITH NON COMMUNICATING HORN

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ABSTRACT
Congenital malformations of the female genital tract arise from embryological maldevelopment of Müllerian ducts. The prevalence varies: 6.7% in the general population, 7.3% in infertile women, and 16.7% in those with recurrent miscarriages. These anomalies increase risks of infertility, miscarriages, and obstetric complications like preterm birth and placental abnormalities. The unicornuate uterus, affecting 0.1% of women, results from arrested development of a Müllerian duct, often with a rudimentary horn. We report a case of a 25-year-old primigravida with a unicornuate uterus and non-communicating rudimentary horn discovered during emergency cesarean for breech presentation at 38 weeks gestation. Despite the fetus being small for gestational age (SGA), delivery was uncomplicated.

KEYWORDS: Breech presentation, uterine malformations, unicornuate uterus.

INTRODUCTION
Congenital malformations of the female genital tract are defined as deviations from normal anatomy resulting from embryological maldevelopment of the Müllerian or paramesonephric ducts.

The prevalence of congenital uterine anomalies is 6.7% in the general population, 7.3% in the infertile population and 16.7% in the recurrent miscarriage population.[1] Determining the exact prevalence is challenging because many of these malformations are asymptomatic.

They are associated with an increased risk of infertility, miscarriages, preterm birth, premature rupture of membranes, breech presentation, cesarean section, placenta previa, placental abruption and intrauterine growth retardation.

The unicornuate uterus occurring in 0.1% of women, results from the arrested development of one of the Müllerian ducts.[2] This condition may be associated with the presence of a rudimentary horn connected to the main uterine body or with no rudimentary horn.

We report the case of a woman with a unicornuate uterus and a non-communicating rudimentary cavity, discovered incidentally during an emergency cesarean section performed for breech presentation in a primipara.

CASE REPORT
Mrs. M.M, a 25-year-old primigravida with no history of spontaneous abortions or preterm birth, presented at 38 weeks gestation complaining of contractions and vaginal leakage. She had not undergone any prior ultrasonography.

Physical examination revealed an unremarkable status with a fundal height of 25 cm. Gross pooling of clear fluid was observed on speculum examination, and a vaginal exam showed 3 cm dilation.

Ultrasound assessment indicated a breech position of the fetus with a fundal placenta. The estimated fetal weight was 2200g, which falls between the 3rd and 10th percentiles.

Due to the breech presentation and the fetus' estimated weight of less than 2500g, she underwent emergency cesarean section. Intraoperatively, she was incidentally found to have a unicornuate uterus with a non-communicating rudimentary horn. (figure 1)

The baby cried immediately after birth despite being small for gestational age (SGA), birth weight - 2365g. Mrs. M.M. did not experience postpartum hemorrhage, and her uterus was closed with a single layer. She had an uneventful postoperative recovery and was discharged on the third day after surgery.

Figures and Legends

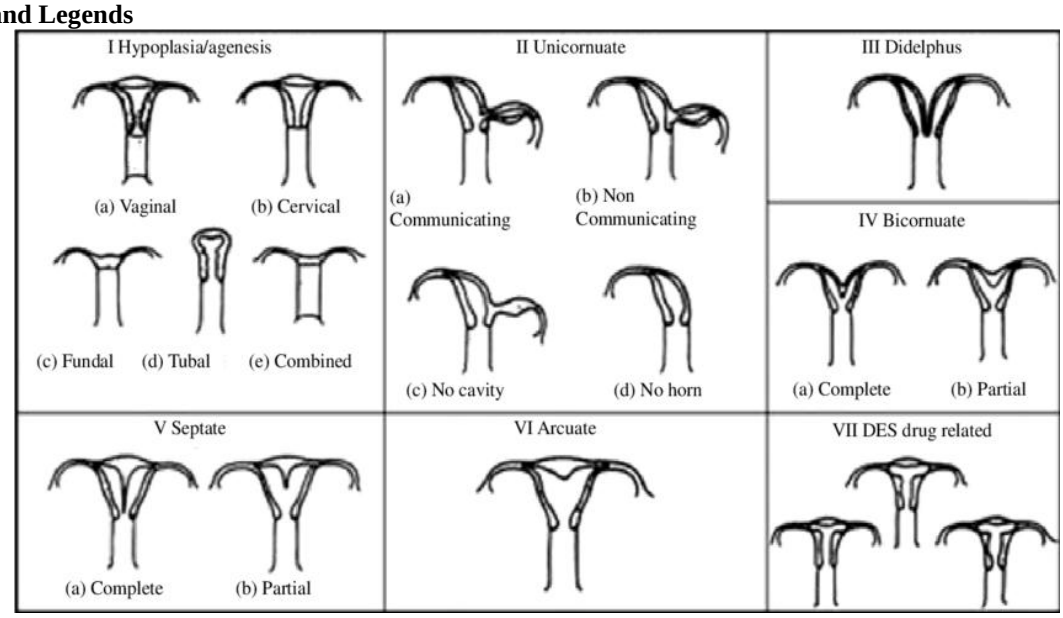

Figure 1: ASRM classification of unicornuate uterus subtypes.

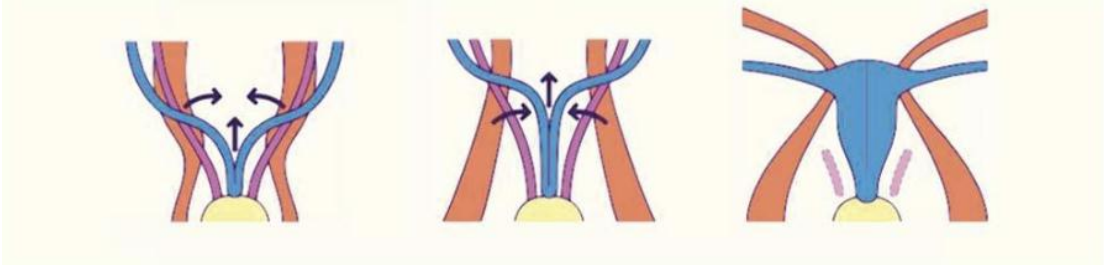

Figure 2: Embryological development phases of the Müllerian ducts.

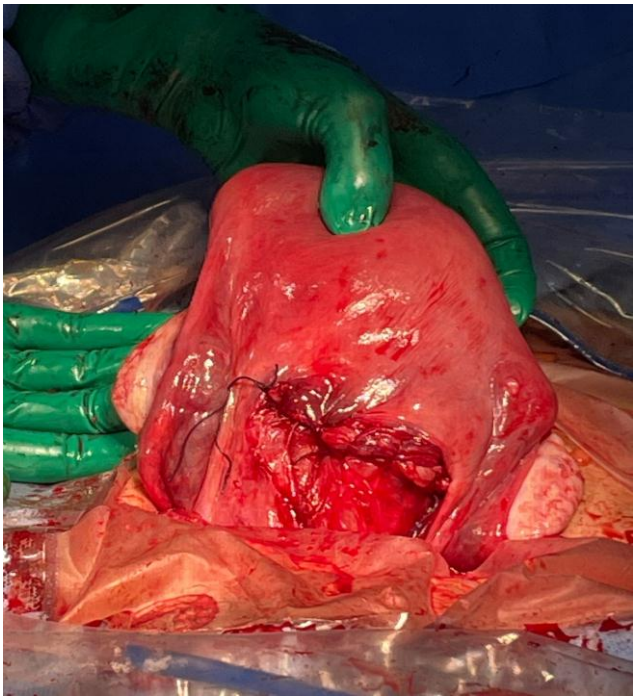

Figure 3: Intraoperative finding of a unicornuate uterus with non-communicating rudimentary horn.

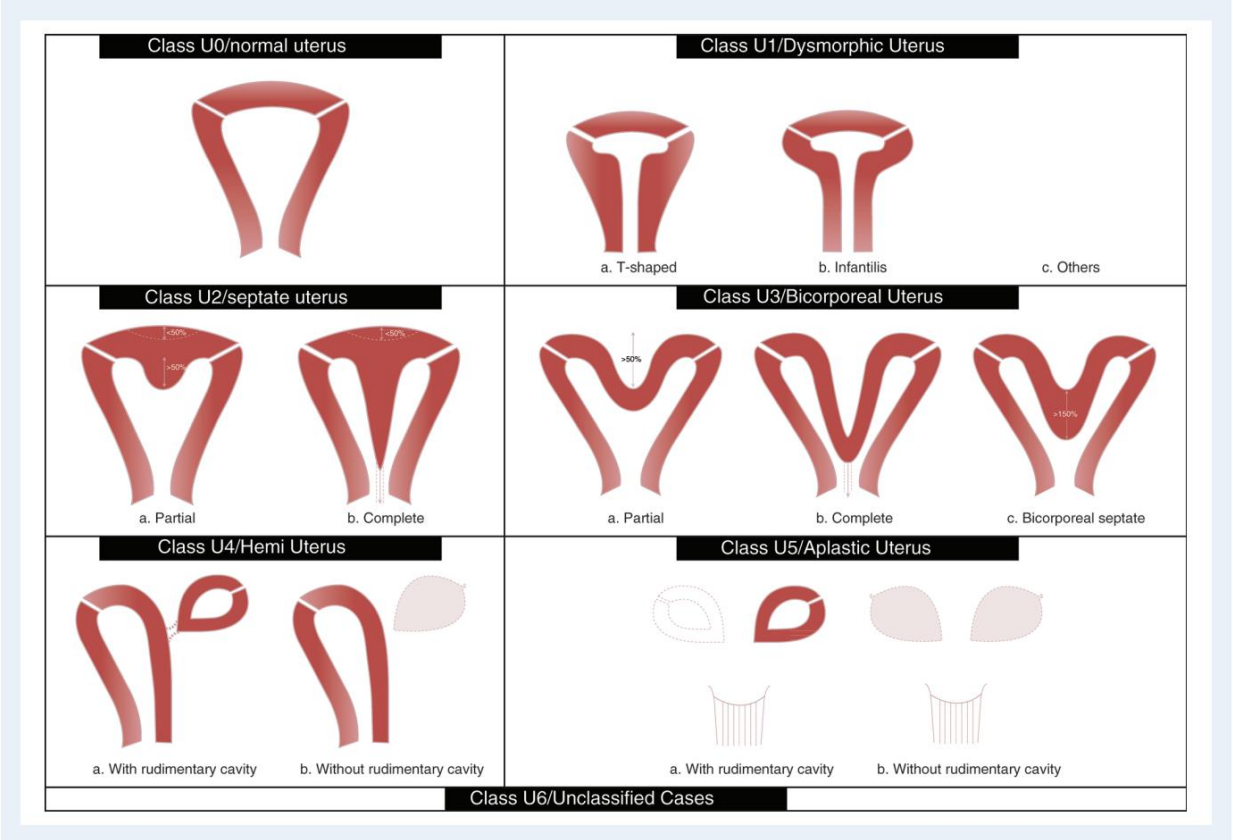

Figure 4: ESHRE/ESGE classification of female genital tract anomalies.

Highlights

- First documented case in our setting of breech presentation associated with a unicornuate uterus and a non-communicating rudimentary horn.
- The anomaly was discovered incidentally during emergency cesarean section at term.
- The case underlines the importance of considering congenital uterine anomalies in obstetric complications.
- Early antenatal imaging could aid in diagnosis and improve delivery planning in similar cases.

DISCUSSION

Congenital uterine anomalies arise from abnormal formation, fusion, or reabsorption of Müllerian ducts during fetal development.

Beginning in the 7th week of development, the differentiation of the female genital tract initiates. In the absence of anti-Müllerian hormone, the Wolffian ducts regress while the Müllerian ducts develop.

1. **Migration:** From the 6th to the 9th week, the Müllerian ducts migrate towards the urogenital sinus.
2. **Fusion:** Between the 9th and 13th weeks, the lower third of the Müllerian ducts fuse to form the uterine cavity, while the upper two-thirds contribute to vaginal formation.
3. **Resorption:** From the 13th to the 17th week, the inter-Müllerian septum is resorbed

Over the years, researchers and clinicians have proposed three distinct systems for classifying anomalies in the female genital tract. The first classification introduced by the American Society of Reproductive Medicine (AFS, 1988), which has been widely accepted due to its simplicity and user-friendly nature. The second system is the embryological-clinical classification of genito-urinary malformations (Acièn et al., 2004a; Acièn and Acièn 2011), The third system is the Vagina, Cervix, Uterus, Adnexa, and associated Malformations (VCUAM) system, proposed by Oppelt et al. in 2005.[6]

The American Society for Reproductive Medicine (ASF) distinguishes the subclasses of the unicornuate uterus (ASRM class II) as: a) With a communicating rudimentary horn b) With a non-.communicating rudimentary horn c) With a rudimentary horn with no cavity d) With an absent rudimentary horn. They are relatively uncommon, representing 2.5–13.2% of all uterine malformations[4] caused by an agenesis or hypoplasia of one of the two Müllerian ducts.

The AFS classification system, while simple and user-friendly, has limitations in categorizing congenital anomalies effectively. Boundaries between categories like arcuate and septate uterus are unclear, and obstructive anomalies are underrepresented. A systematic re-evaluation of current proposals has emphasized the need for an updated clinical classification system.

The new European Society of Human Reproduction and Embryology (ESHRE)/European Society of Gynecological Endoscopy (ESGE) classification system for female genital anomalies is primarily designed for clinical guidance and is based on the anatomy of the tract female genitalia. This classification system appears to overcome the limitations of previous attempts.[6]

Most rudimentary horns are asymptomatic, as observed in our case. However, some may contain functional endometrium capable of supporting an ectopic pregnancy or causing cyclic or chronic pelvic pain if the horn becomes obstructed.[7]

Term pregnancies are possible in patients with Müllerian anomalies; however, these pregnancies should be considered high-risk. They require close monitoring and individualized management to ensure the best outcomes for both mother and baby.

Ethical approval
Ethics approval has been obtained to proceed with the current study.

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Author contribution
Amani GHAZALAH: Study concept and design, data collection, data analysis and interpretation, writing the paper

Kassou Oumaima: Study concept and design, data collection, data analysis and interpretation, writing the paper.

Fatima Zahra BELOUEZA: Study design, data collection, data interpretation, writing the paper.

Soukaina MOUIMAN: Study concept and design, data collection, data analysis and interpretation, writing the paper.

Amina LAKHDAR: Study concept and design, data collection, data analysis and interpretation, writing the paper.

Aziz BAYDADA: Study concept, data collection, data analysis, writing the paper.

Guarantor
The corresponding author is the guarantor of submission.

Research registration number
Not applicable.

Consent
Written informed consent was obtained from the patient for publication of this case report and any accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal.

Availability of data and materials
Supporting material is available if further analysis is needed.

Declaration of competing interest
The authors declare that they have no competing interests.

Acknowledgements
None.

Outcome
The patient delivered a live, small-for-gestational-age neonate via emergency cesarean section due to breech presentation at 38 weeks. Intraoperative findings revealed a unicornuate uterus with a non-communicating rudimentary horn. The postoperative course was uneventful, with discharge on postoperative day three and no maternal or neonatal complications.

Strengths
- First documented case in our setting of breech presentation associated with a unicornuate uterus discovered incidentally during cesarean section.
- Provides valuable clinical and intraoperative documentation that may help guide diagnosis and management of similar cases.
- Highlights the importance of considering congenital uterine anomalies in obstetric complications, contributing to clinical awareness.

Limitations
- Single case report limits generalizability of findings.
- Lack of preoperative imaging prevented early diagnosis and antenatal management planning.
- Long-term maternal and neonatal outcomes were not assessed due to short follow-up.

Complications and Adverse Events
No intraoperative or postoperative complications observed.

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