



Breech Presentation in a Primigravida with Previously Unrecognized Bicornuate Uterus: A Case Report from a Resource-Limited Area

¹ Denaya Nindita, ² Aniq Fauziah Haningtyas, ³ Afriyah, ⁴ Gayuh Tunggal Rachmadhini

¹ Faculty of Medicine, Swadaya Gunung Jati University, Cirebon, Indonesia

² Faculty of Medicine, Diponegoro University, Semarang, Indonesia

³ Faculty of Medicine, Padjajaran University, Bandung, Indonesia

⁴ Department of Obstetrics and Gynecology, Waled General District Hospital, Cirebon, Indonesia

Corresponding Email : Email : denayanindita@gmail.com

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ABSTRACT

Background: Congenital uterine anomalies (CUAs) are structural malformations of the uterus that occur during embryogenesis, and their prevalence in the general population ranges from 0.1% to 5.5%, depending on the population studied and the diagnostic modalities used. However, in rural or resource-limited settings, access to such modalities is often restricted, and antenatal evaluation is limited to basic obstetric ultrasonography; diagnostic challenges may delay recognition of this condition.

Case Presentation: An 18-year-old primigravida with 36 weeks of gestation from a rural area who presented with a breech pregnancy. Antenatal care was conducted in a primary healthcare facility with limited ultrasonography capabilities, and no uterine anomaly was detected. Cesarean section was performed due to breech presentation and developed into a premature rupture of

membranes. Intraoperatively, a bicornuate uterus was identified, with the pregnancy located in one uterine horn.

Conclusion: This case highlights the diagnostic limitations in rural healthcare settings and emphasizes the importance of maintaining clinical suspicion for uterine anomalies in cases of malpresentation, particularly in primigravida patients.

Keywords: diagnostic challenges, rural area, bicornuate uterus, breech presentation.

INTRODUCTION

Congenital uterine anomalies (CUAs) are defined as structural malformations of the uterus caused by abnormal formation, fusion, or resorption of the Müllerian ducts during embryogenesis. These anomalies represent a spectrum of anatomical variations that may affect reproductive and obstetric outcomes.^{1,2}

The estimated prevalence of CUAs in the general population ranges from 0.1% to 5.5%, depending on the population studied and diagnostic modalities used. Among these anomalies, a bicornuate uterus results from partial failure of Müllerian duct fusion, leading to a uterus with two distinct horns.^{3,4} The divided uterine cavity limits the available space for fetal development. It may impair normal placentation, thereby increasing the risk of intrauterine growth restriction (IUGR) and small for gestational age (SGA) fetuses. Recent large-scale evidence from systematic reviews and meta-analyses indicates that women with congenital uterine anomalies, including a bicornuate uterus, have a significantly higher risk of IUGR compared with women with normally shaped uteri.⁵ Although many women with a bicornuate uterus remain asymptomatic, this condition has been associated with increased risks of miscarriage, preterm birth, fetal growth restriction, and malpresentation. Breech presentation is particularly common due to altered uterine morphology and limited intrauterine space.⁶

Accurate diagnosis of uterine anomalies typically requires advanced imaging techniques such as three-dimensional ultrasonography or magnetic resonance imaging. However, in rural or resource-limited settings, access to such modalities is often restricted, and antenatal evaluation is limited to basic obstetric ultrasonography. Consequently, uterine anomalies may remain undiagnosed until delivery or intraoperative exploration.⁷

This case report aims to describe the diagnostic challenges of a bicornuate uterus in a primigravida from a rural area, where the anomaly was only identified intraoperatively during cesarean section performed for breech presentation.

CASE REPORT

An 18-year-old primigravida (G1P0A0) at 36 weeks of gestation was referred from a rural primary healthcare facility to a secondary hospital due to breech presentation since 24 weeks of gestation. The patient had received regular antenatal care at the primary facility. Her pregnancy had been uneventful, and she had no history of gynecological complaints, infertility, or previous pelvic surgery. Antenatal ultrasonography was performed several times during pregnancy using basic two-dimensional equipment. The examinations confirmed a singleton live fetus with breech presentation but did not reveal any uterine abnormalities.⁷

During observation in a primary healthcare setting, the patient developed premature rupture of membranes accompanied by a complicating breech presentation, prompting urgent referral to a tertiary care hospital. On admission, her vital signs were stable (BP 117/86 mmHg, HR 88 bpm, temperature within normal limits), while laboratory tests indicated mild anemia (hemoglobin 11.4 g/dL, hematocrit 33%, erythrocytes 3.67 mil/ μ L).

On admission to the emergency setting, obstetric examination confirmed a longitudinal lie with a breech presentation. Transabdominal ultrasonography revealed an intrauterine fetal condition revealed a single live fetus in breech presentation. Fetal biometry was consistent with a gestational age of 34–35 weeks. Fetal heart rate was present. The estimated fetal weight was 2,436 grams. The placenta was located at the posterior fundal region of the uterine corpus. Amniotic fluid volume appeared reduced, with a single deepest pocket (SDP) measuring 1.84 cm (Figure 1). Considering the primigravida status and breech presentation, an elective cesarean section was planned.⁸

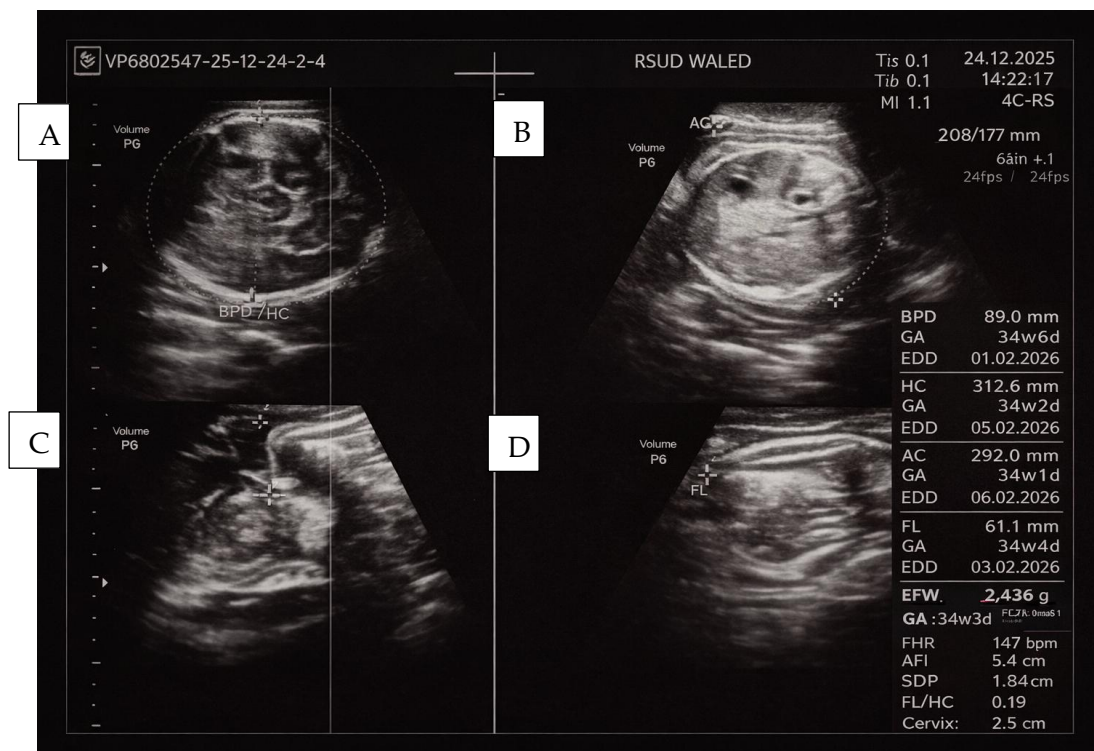


Figure 1. Ultrasound Findings. (A) An intrauterine fetal measuring BPD 89.0 mm. (B) AC within approximately 292.0 mm. (C) for SDP can be measured 1.84 cm. (D) Intrauterine FL around 61.1 mm.

At 36 weeks of gestation, the abdominal ultrasound confirmed the diagnosis of breech presentation and no fetal or placental abnormality, and the patient was planned for elective cesarean delivery. A baby boy was born weighing 2055 grams, with Apgar scores of 8 and 9. No gross fetal anomalies were seen. The placenta was lying on the posterior wall. After the placenta peeled, the isthmus was sutured continuously, and there was no active bleeding. During the exploration of the uterus with a single common servix (Figure 2). The placenta and fetus were both located in the right horn of the uterus. The caesarean section is completed with minimal blood loss and good recovery. No complications were noted in this patient. Both mother and baby were healthy at discharge.

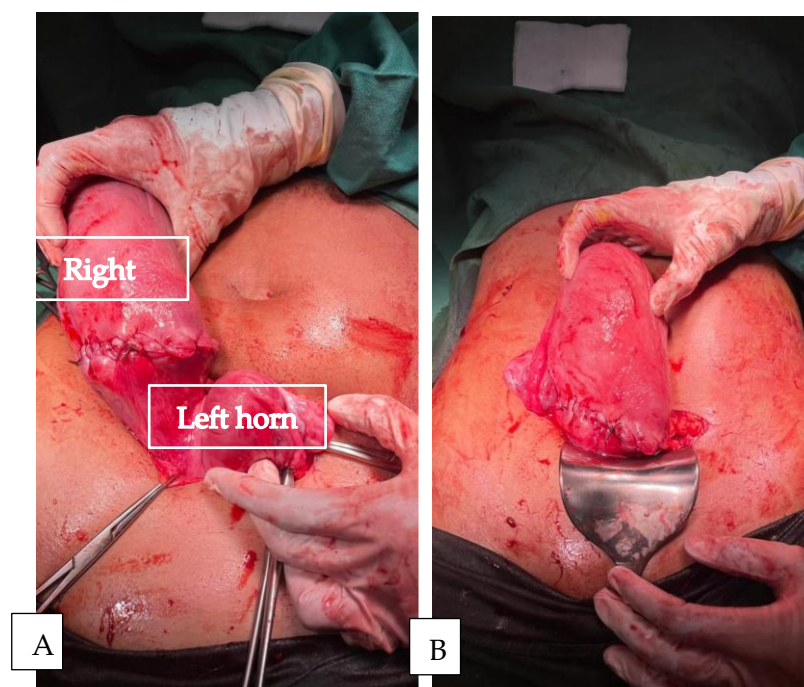


Figure 2. Intraoperative finding: (A) Bicornuate uterus during cesarean section. (B) The right horn which serves as the site of fetal development during pregnancy.

DISCUSSION

A bicornuate uterus is classified as a class IV Müllerian anomaly according to the American Society for Reproductive Medicine (ASRM) classification system. It results from incomplete fusion of the Müllerian or paramesonephric ducts during embryogenesis, leading to a divided uterine cavity. It becomes a bicornuate unicollis and bicollis.^{1,2} The clear etiology is still unclear. It is believed to be multifactorial, involving both genetic and environmental factors. The Wnt7a gene regulates Müllerian duct differentiation and is responsible for the expression of Hoxa10 and Hoxa11, which differentiate the ducts into fallopian tubes, uterus, cervix, and vagina.⁹ Meanwhile, one of the predicted environmental factors is caused by the exposure to diethylstilbestrol during pregnancy; however, diethylstilbestrol is no longer used.¹⁰ Campo MC et al.¹ through meta-analysis, stated that Congenital Uterine Anomalies (CUA) will have a risk of preterm delivery,

malpresentation at delivery, and caesarean delivery. In our cases, it can be found bicornuate uterus accidentally during caesarean section, but during the pregnancy, they were asymptomatic, and it was all normal examination until breech presentation started at 24 weeks.

A bicornuate uterus is a congenital uterine anomaly that may adversely affect fetal growth due to its abnormal uterine morphology. These conditions may result in chronic placental insufficiency, leading to impaired fetal nutrient and oxygen delivery. In this case, the infant weighed 2055 grams at birth, which is below the expected weight for gestational age, supporting the association between a bicornuate uterus and intrauterine growth restriction (IUGR). This finding highlights the clinical relevance of uterine structural abnormalities as an underlying risk factor for fetal growth restriction, particularly when no other maternal risk factors are identified.⁵

Moreover, in primigravida patients, breech presentation should prompt careful evaluation, as it may be the first clinical indicator of an underlying uterine anomaly. Early diagnosis allows for appropriate antenatal counseling, risk stratification, and delivery planning.^{4,11} In rural healthcare settings, diagnostic challenges are particularly pronounced. Antenatal ultrasonography often focuses on fetal viability and presentation, while assessment of uterine morphology may be overlooked due to limited equipment and operator expertise. As a result, congenital uterine anomalies may remain undetected until intraoperative exploration.⁶ In the present case, the diagnosis was only established intraoperatively, which limited opportunities for antenatal counseling and referral planning. This highlights the need for heightened clinical suspicion and strengthened referral systems when high-risk features, such as breech presentation in primigravida patients, are identified.^{7,9}

In diagnosis and managing the anomaly, imaging such as hysterosalpingography, ultrasound, and MRI is considered necessary.¹¹ In a rural area, there is only an ultrasound facility to diagnose this abnormality. 3D ultrasonography has a sensitivity and specificity of 99% and 100%, respectively, in distinguishing a bicornuate uterus from a septate uterus. In the coronal view of the uterus, if the indent >10 mm is bicornuate and <10 mm is classified as arcuate/subseptate.⁶ In this case, ultrasound could not reveal the bicornuate uterus during pregnancy because it was rather difficult to show the uterine abnormalities in the second trimester. Uterine ultrasonographic evaluation should be conducted prior to conception to allow early detection of possible uterine

abnormalities. Ultrasonographic evaluation for uterine anomalies is optimally performed during the secretory phase of the menstrual cycle, when the endometrium is thickened and echogenic, allowing clearer delineation of the endometrial cavity and uterine contour. This physiological enhancement improves the detection and classification of congenital uterine anomalies.^{12,13}

In rural or resource-limited settings, antenatal ultrasonographic evaluation is typically limited to basic two-dimensional transabdominal ultrasonography, which remains useful for fetal assessment but has limited sensitivity for detecting uterine anomalies. In the absence of advanced imaging modalities, recognition of clinical complications such as persistent breech presentation in primigravida patients is essential to prompt early referral for further evaluation.¹⁴

When advanced imaging is unavailable, clinical vigilance and timely referral based on antenatal complications are critical to avoid delayed diagnosis of uterine anomalies.

CONCLUSION

This case illustrates the diagnostic challenges of a bicornuate uterus in a rural healthcare setting, where limited diagnostic resources may delay recognition until intraoperative exploration. Breech presentation in primigravida patients should raise suspicion for underlying uterine anomalies. Improving access to diagnostic imaging, enhancing clinician awareness, and optimizing antenatal referral pathways are essential to improve maternal and neonatal outcomes in rural areas.

AUTHOR DECLARATIONS

Informed consent patient statement

The patient has been informed about the details of the case and has provided approval for the information to be published in this case report.

Conflict of interest

None declared.

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