

## Case Report

# Fetal Head Entrapment During Caesarean Delivery Due to Undiagnosed Bicornuate Uterus

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**Abstract: Objective:** Fetal head entrapment during a caesarean delivery due to breech presentation is an emergency which should act promptly and appropriately. This can be happened as a result of pre-maturity due to larger head compare to the trunk or due to uterine anomalies. Uterine anomalies may be congenital or acquired. Bicornuate uterus is a common congenital uterine anomaly while fibroid uterus is the commonest acquired uterine anomaly. This is a case of head entrapment during the delivery of the baby during caesarean section due to undiagnosed bicornuate uterus. **Case:** 19-year-old primi mother in the 34<sup>th</sup> week of pregnancy presented in active labour. Examination confirmed the pre-term labour with fully dilated cervix with breech presentation. Emergency caesarean delivery was planned due to risk of entrapment of after coming head. Fetal head entrapment occurred following the delivery of fetal trunk during the caesarean section. Transverse uterine incision had to be extended as an inverted “T” incision to complete the delivery of the fetus. Inspection following the delivery revealed the presence of bicornuate uterus. Routine uterine incision suturing done and she had an uneventful recovery. **Discussion:** Bicornuate uterus is one of the commonest congenital uterine anomalies occur due to incomplete fusion of the Mullerian ducts which usually diagnosed during a uterine surgery or during the course of investigation for recurrent pregnancy losses, subfertility or dysmenorrhoea. Even though current evidence not suggest to offer routine emergency caesarean delivery for all pre-term breech comes with pre-term labour, emergency caesarean delivery will reduce the risk of after coming head entrapment during vaginal breech delivery which need more difficult interventions. Making an inverted “T” incision is the recommended method to overcome the head entrapment during caesarean delivery. Patient should be counselled regarding the possible consequences of future pregnancies and she should be screened for renal anomalies as uterine anomalies associate with renal anomalies. **Conclusion:** Bicornuate uterus is associated with multiple obstetrics complications which need proper investigations and management to reduce the maternal morbidity and mortality while reducing the poor neonatal outcomes.

**Keywords:** Bicornuate uterus, pre-term labour, malpresentation.

## Introduction

0.1% to 3% of all women and 10% of women with 3 or more consecutive pregnancy losses have congenital uterine anomalies<sup>1,2</sup>. Bicornuate uterus (BU) origins due to the failure of fusion of Mullerian ducts during embryogenesis and accounts for 25% of all Mullerian duct developmental abnormalities<sup>3</sup>. Other than recurrent pregnancy losses and subfertility; women with BU may present with obstetrics complications such as mid-trimester miscarriages, preterm labour and delivery, malpresentation (specially breech presentation at term), and antepartum and postpartum haemorrhage

while 60% of women with BU will have a live birth<sup>4</sup>. BU may be the only risk factor for rupture of an unscarred uterus even though it is rare<sup>5</sup>. BU may associate with longitudinal vaginal septum (in 25% of cases) and renal anomalies<sup>6</sup>.

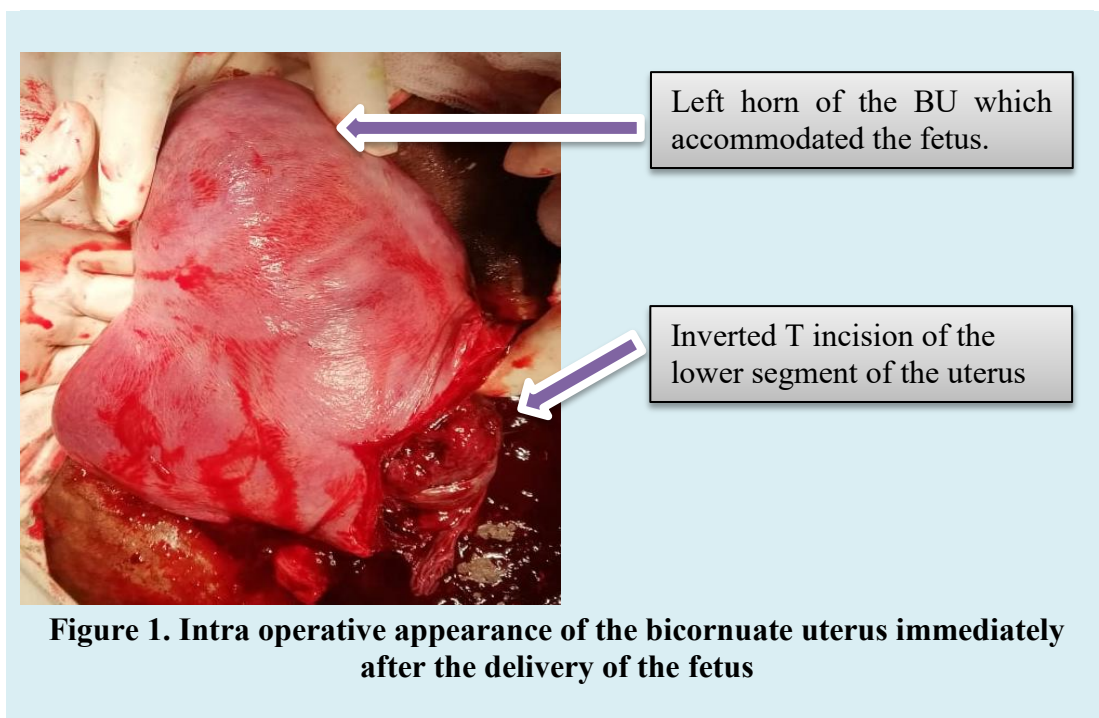
BU can be sub divided into two depending on the involvement of cervical canal.

1. **Bicornuate unicollis**-uterus with one cervical canal and central myometrium extends up to internal os.
2. **Bicornuate bicollis**-uterus with two cervical canals and central myometrium extends up to the external os.

Most of the women with BU are asymptomatic and usually diagnosed when they are being investigated for pregnancy complications [recurrent pregnancy loss (25%), preterm birth (15–25%) and cervical insufficiency (38%)] or during abdominal surgeries (caesarean section, laparoscopy or hysterectomy)<sup>7</sup>. Otherwise this can be diagnosed by imaging with ultra sound scan (USS), hysterosalpingogram (HSG) or magnetic resonance image (MRI)<sup>6</sup>. BU has a larger space in fundal area compare to the lower uterine segment which facilitates the accommodation of relatively larger fetal head which ultimately ended up with breech presentation. Thus, BU increase the caesarean delivery rate due to malpresentation<sup>8,9</sup>. Same time, continuation of pregnancy in a BU up to term is rare as many of these ended up with abortions, uterine rupture or pre-term deliveries. Thus, it increases the maternal and fetal morbidity and mortality<sup>10,11</sup>.

### Case history

19-year-old primi mother in her 34<sup>th</sup> week of pregnancy presented with dribbling in active labour. Examination confirmed the pre-term labour with fully dilated cervix and baby was in breech presentation. Bed side ultra sound scan (USS) confirmed the fetal viability with extended breech presentation and normally sited placenta. After careful counselling, emergency caesarean delivery was opted due to the risk of after coming head entrapment.



Following the routine delivery of the breech and trunk of the fetus during caesarean, fetal head entrapment was encountered. Transverse uterine incision was extended towards fundus as an inverted “T” incision and delivery of the fetus was completed. Exteriorization and inspection of the uterus following the delivery confirmed the presence of bicornuate uterus which could be the most

probable cause for the head entrapment other than prematurity. Left horn had been occupied with the fetus. Uterus was repaired in two layers with No 1 polyglycolic acid and routine closure done. She was discharged following an uneventful recovery after counselling regarding the findings during surgery and future outcomes in subsequent pregnancies. Follow up USS was arranged to screen for renal anomalies later.

## **Discussion**

Failure to diagnose BU during antenatal period can be happened as early pregnancy USS not routinely focused to detect congenital uterine anomalies unless it is incidentally found. She had not been investigated for any kind of adverse pregnancy outcome either as her pregnancy had been uncomplicated so far. BU could have been diagnosed during pre-pregnancy period with ultra sound scan (USS), hysterosalpingogram (HSG) or magnetic resonance image (MRI) if she had symptoms of BU<sup>6</sup>. Concave or heart shape external appearance, widely diverged uterine horns, widened intercornual distance (>4cm) and more than one-centimetre deep central cleft are the characteristic features of BU. Usually the communication of two horns is taken place at the level of uterine isthmus. The angle between two horns is usually more than 105 degrees<sup>12</sup>. Differential diagnoses are uterine didelphys and septate uterus<sup>6</sup>. BU should be distinguished from septate uterus as septate uterus can be treated with hysteroscopic resection. Most reliable method of diagnosing BU would be combined hysteroscopy and laparoscopy.

Having a BU may be the most probable cause for the pre-term labour in this case even though she didn't have other antenatal complications like fetal growth restriction. Even though routine emergency caesarean delivery is not indicated in every pre-term breech coming in labour, retrospective analysis of the case justifies the decision to go ahead with emergency caesarean delivery<sup>13</sup>. Otherwise if this head entrapment happens during vaginal breech delivery which need incising the cervix will call for more troubles than this. The most two probable causes for the head entrapment during the delivery are prematurity of the fetus (relatively larger head size compare to the trunk), and narrow space at the junction of two uterine horns which usually consist of fibrous band limiting the expansion<sup>4</sup>. Most suitable operative technique to overcome head entrapment during caesarean is extend the transverse uterine incision as an inverted "T" or "J" incision. Adequate care should be taken regarding uterine incision suturing as BU itself is a risk factor for uterine rupture even in an unscarred uterus. Following the surgery, patient should be adequately counselled regarding the findings and possible adverse pregnancy outcomes during future pregnancies. Suitable contraceptive method should be given to keep an adequate space with next pregnancy in order to allow uterus to heal. A follow up USS should be arranged to exclude renal anomalies as there is an association between BU and renal anomalies<sup>6</sup>.

## **Conclusion**

BU is associated with multiple obstetrics complications which need proper investigations and management to reduce the maternal morbidity and mortality while reducing the neonatal outcomes. Undiagnosed BU may present as preterm labour with malpresentation (specially breech presentation) which require caesarean delivery with possible difficulties during the delivery of the fetal head. Proper counselling regarding the condition plays an important role in minimizing the complications during subsequent pregnancies.

## **Declarations**

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**Ethical Approval:** As this is a case report which do not contain any patient identification details, ethical approval is not required.

**Informed Consent:** Informed written consent was obtained from the patient.

**Author Contribution:** The author confirms sole responsibility for study conception and design, data collection, analysis and interpretation of results, and manuscript preparation.

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