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Case Report

A Hidden Mullerian Anomaly During Caesarean Section - Expect the Unexpected

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Abstract

Women with mullerian anomalies may experience reproductive challenges, such as difficulties in carrying a pregnancy to term, but many can still have successful pregnancies with appropriate medical care. Mullerian anomalies arise due to issues during the development of the female reproductive system in embryonic life. The uterus and upper two-thirds of the vagina are derived from the paramesonephric (or Mullerian) ducts. In the case of a unicornuate uterus, one of these ducts fails to develop properly, leading to a uterus that is only partially or completely formed from one of the ducts. In this report, we are presenting a case of hidden mullerian anomaly, unicornuate uterus during caesarean section.

Keywords: Mullerian Anomaly; Unicornuate Uterus; Paramesonephric Ducts; Bottom of Form

Introduction

Mullerian anomalies result from defects in the embryological development of female genital system. Unicornuate uterus is one such mullerian anomaly, resulting from failure in the development of one of the paramesonephric ducts, either partially or completely. In 1979, Buttran and Gibbons described four variations of the unicornuate uterus : an isolated unicornuate uterus with no contralateral structure (Type B), unicornuate uterus with a communicating horn (Type A1a), with a non communicating horn (TypeA1b) and with no cavity (Type A2) [1]. Although the classification of mullein anomalies is revised by the American society of reproductive medicine, the unicornuate uterus is still classified as type 2 with same categories. The incidence of mullerian anomalies as per reports in general population is 1 to 10%, 2 to 8% in infertile women and 5 to 30% of females with history of miscarriage [2]. The complications of uterine anomalies are preterm birth, placenta previa, placental abruption, preterm premature rupture of membranes and intrauterine growth restriction [3]. Here we report a case of unicornuate uterus diagnosed caesarean section with successful pregnancy outcome.

Case Report

A 28year old primigravida, booked and immunized, was on regular antenatal checkup. Her menstrual cycles were regular and she was married for 1 year. Her past medical history and family history was insignificant. Her entire antenatal period was uneventful without any complications. The obstetric ultrasound examination at first and second trimester was done elsewhere, it showed single live fetus corresponding to gestational age, with no fetal anomalies and normal insertion of placenta. At 32 weeks of gestation, a growth scan with doppler was done in which interval growth was maintained and doppler study was normal.

At 40 weeks of gestation, she was admitted for safe confinement. On examination, vitals were stable and her obstetric examination revealed term size uterus, uterine ovoid more towards right with

cephalic presentation with live fetus. On per vaginal examination, pelvimetry was assessed and there was no cephalopelvic disproportion and her modified bishop's score was 4. Ultrasound obstetrics showed that the interval growth was maintained, placenta was anterior, with Amniotic Fluid Index of 5cm with normal doppler study. After getting informed and written consent, induction of labour was done with mechanical induction with foleys catheter for 12 hours, followed by 2 doses of prostaglandin E2 gel at 6 hours interval as per the Institutional protocol and her cardio tocography was reassuring. As she was not progressing, she was taken for lower segment caesarean section in view of failed induction. A failed induction is defined as no uterine contractions even after 2 doses of Prostaglandin E2 gel for 12 hours or non progress of labour for 24 hours post induction as per Institutional Protocol.

Intraoperative findings

Unlike other normal caesarean section, after opening the peritoneum, surprisingly the incision site had more torturous blood vessels and some abnormality in the uterus was noted. With prompt realization and timely opinion of senior consultant, dreadful complication was avoided by giving proper uterine incision for baby delivery, then delivered a live term girl baby with weight 2.54kg with Apgar 8/10,9/10 in 1min and 5min respectively. Uterus was pushed to right side, with shape and contour altered (Figure 1). Right side tube and ovary was normal. On the left side, surprisingly, there was a rudimentary horn of uterus with left ovary and tube attached. Intraoperative diagnosis of right unicornuate uterus with left distal atrophic uterine remnant was noted according to ASRM 2021. Placenta and membranes delivered in toto. Uterus was closed in layers. There was no atonic postpartum hemorrhage. Postoperative period was uneventful.

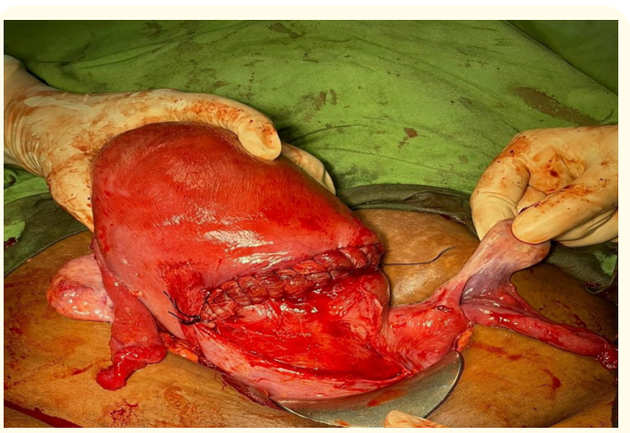

Figure 1: Right Unicornuate uterus with left distal atrophic uterine remnant (ASRM2021).

Discussion

The unicornuate uterus is a rare type of mullerian anomaly with average incidence of 1 in 500 women [4]. The most common presentation of unicornuate uterus is infertility and miscarriage. Reproductive function can be improved in a unicornuate uterus but the obstetrician should look for signs of preterm labour [5]. Ectopic pregnancy in rudimentary horn is a rare event with eventual rupture of horn when pregnancy is undetected [6]. Unicornuate uterus is often associated with urinary tract abnormalities with presence of hypoplastic kidney or horseshoe kidney. Women with unicornuate uterus are more prone for miscarriage, especially in the second trimester and if needed cervical encerclage should be considered for cervical incompetence. The occurrence of miscarriage might be due to inability of small uterus to expand sufficiently in the advanced pregnancy. They are also at higher risk of preterm labour, preterm delivery and preterm premature rupture of membranes [2].

Reichman., *et al*. in his review, reported the early miscarriage rate in woman with unicornuate uterus as 24% and late miscarriage as 10%. This early miscarriage could not be explained, other than altered uterine polarity and peristalsis in anomalous uterus [7].

Caserta., *et al*. reported a case of caesarean section, presenting with a non-communicating horn. They reported a successful pregnancy outcome after laparoscopic resection of rudimentary horn [9].

In a large study on reproductive outcome of woman with unicornuate uterus by Tellum., *et al*. (2023), women had a significantly lower live birth rate of 47%, higher miscarriage rate of 42% and preterm delivery of 24.2%. 6.1% of the patients presented with ectopic pregnancy, especially in patients with rudimentary horns [8]. In our case, the patient did not have any symptoms of preterm labour and pregnancy continued till her expected date of delivery.

Higher rates of caesarean section had been reported in literature in patients with unicornuate uterus, the common indication being malpresentation and other indication was failed induction. There was significantly higher incidence of caesarean section (6.3%) in pregnancy with unicornuate uterus [9]. But in our case, it was cephalic presentation, but patient underwent caesarean section due to failed induction. Other associated obstetric complications are placenta previa, abruptio placenta and IUGR [3]. Earlier diagnosis of uterine anomaly with two dimensional and three dimensional ultrasound can help the clinician to predict and prevent the miscarriage, preterm labour and other obstetric complications [10].

Conclusion

Women with unicornuate uterus have associated adverse reproductive outcomes. However, successful pregnancy outcomes as full term live birth was still possible. Earlier diagnosis with three dimensional ultrasound can predict and prevent the obstetric complications.

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