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Case Series

Feto maternal outcomes with mullerian anomalies

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ABSTRACT

Congenital anomalies of female reproductive tract may involve the uterus, cervix, or vagina arise from defect in development of Mullerian ducts during fetal life. In mullerian anomalies various types of uterine anomalies are common. Many cases with Mullerian anomalies remain unidentified especially if patient is asymptomatic. They are often associated with obstetric complications like malpresentation, PPROM and preterm delivery. Hence we are presenting a case series to summarize the fetomaternal outcomes with mullerian anomalies.

Keywords: Fetomaternal outcomes, Mullerian anomalies, Malpresentations

INTRODUCTION

Normal development of the female reproductive tract involves a series of processes that are characterized by the differentiation, fusion, and canalization of the mullerian system.[1] Congenital anomalies of female reproductive tract may involve the uterus, cervix, or vagina arise from defect in development of Mullerian ducts during fetal life. As per the various studies conducted previously, uterine anomalies occur in approximately 3–4% of fertile and infertile women, 5–10% of women with recurrent early pregnancy loss, and up to 25% of women with late first or second-trimester pregnancy loss or preterm delivery.[2,3]

Mullerian duct anomaly (MDA) is a rare condition. It is associated with a wide range of gynecological and obstetric complications, namely infertility, endometriosis, urinary tract anomalies, and preterm delivery.

Uterine anomalies are associated with diminished cavity size, insufficient musculature, impaired ability to distend, abnormal myometrial and cervical function, inadequate vascularity, and abnormal endometrial development.[4] Because of these structural limitations, mullerian anomalies in pregnancy often result in abortion, preterm delivery, growth restrictions, malpresentations and ultimately increased rate of caesarean section.

Here we present a Case series of women having mullerian anomalies with their obstetric outcomes.

Case 1

Arcuate uterus with pregnancy in left horn

A 28-year-old multigravida came to emergency as a referred case of 36 weeks + 4 days pregnancy with hand prolapse and cord prolapse. On general examination her vitals were stable. On per abdomen examination fundal height was 36 weeks, cephalic presentation, fetal heart was regular and uterine contractions were present. Urgent decision for emergency caesarean section taken in view of hand and cord prolapse.

Intraoperatively arcuate uterus with pregnancy in left horn was present (Figure 1). Bilateral fallopian tubes and ovaries were normal in morphology. Caesarean section was done and a baby girl with 2440 gms weight was delivered. Her post operative period was uneventful and on

post-operative day 7 she was discharged in satisfactory condition.

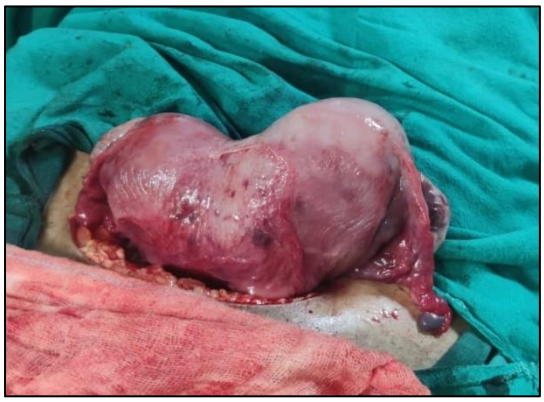

Figure 1: Arcuate uterus with pregnancy in left horn.

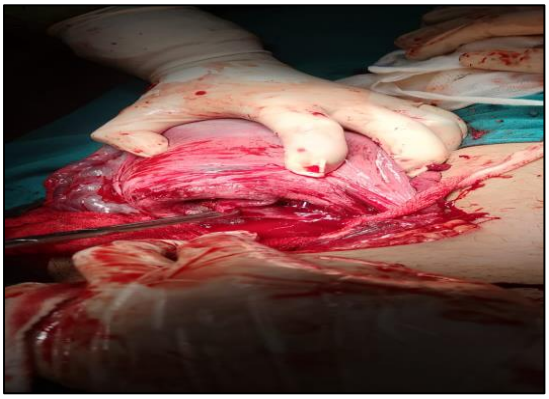

Figure 2: Septate uterus with septum extending from fundus to lower segment.

Figure 3: Baby in NICU with fracture right humerus.

Case 2

Complete septate uterus with malpresentation

A 23-year-old Primigravida reported at emergency as a referred case of 32 weeks pregnancy with Premature Preterm rupture of Membranes (PPROM), severe oligohydramnios and threatened preterm labor. She gave history of pain in abdomen and leaking per vaginum since one day.

On general examination her vitals were stable. On per abdomen examination fundal height was 28 weeks, transverse lie, with irritable uterus. On per vaginum examination cervix was 2 cm dilated, early effaced, membranes were absent, liquor was scanty, foul smelling and shoulder presentation felt. Patient was taken for emergency LSCS as she developed fetal distress.

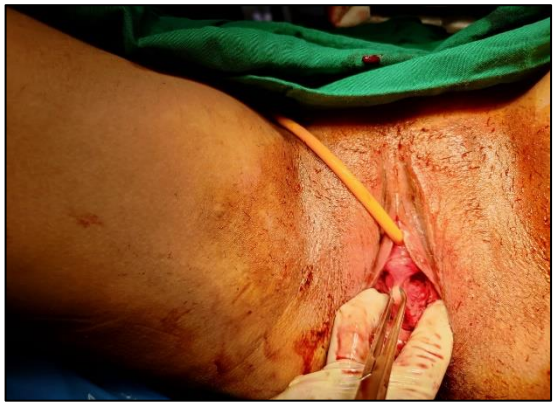

Figure 4: Two vaginal openings with a longitudinal septum.

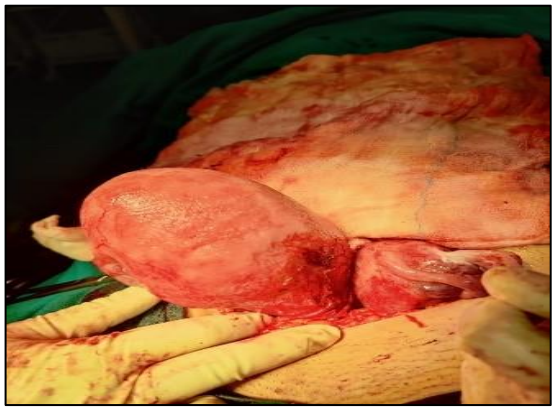

Figure 5: Uterus didelphys with pregnancy in right side.

Intraoperatively, an alive baby boy was delivered with difficult extraction because of transverse lie and absent liquor. Birth weight was 1210 gms with low Apgar score. There was swelling at the right shoulder of baby. After expulsion of placenta an abnormal uterine contour and a complete septum extending from fundus to lower uterine septum was noticed (Figure 2).

Placental membranes and umbilical cord were sent for histopathological examination which later reported as features of acute chorioamnionitis and funisitis.

Patient's post operative period was uneventful. Baby was admitted in NICU for prematurity and fracture of right side humerus (Figure 3).

Baby was discharged from NICU on 20th day of birth and with weight of 1330 gms.

Case 3

Uterus didelphys with pregnancy in right side

A 31year old, primigravida, presented to emergency at 35 weeks gestation with history of leaking per vaginum since 2 days with pain abdomen since 1 day. She was referred as a case of PPROM with breech with severe oligohydramnios with fetal growth restriction.

Patient was admitted, a detailed history and examination was done and required investigations were sent. On general examination her vitals were stable.

On per abdomen examination fundal height was 32 weeks and uterus was deviated towards right side with breech presentation was felt.

Table 1: Mullerian anomalies and feto-maternal complications

Case	Mullerian anomaly	Maternal and fetal outcomes
Case 1	Arcuate uterus with pregnancy in left horn	Hand prolapse, cord prolapse. prematurity
Case 2	Complete septate uterus	Malpresentation (transverse lie), PPROM, preterm labor, chorioamnionitis, fetal trauma leading to fracture humerus, NICU stay
Case 3	Uterus didelphys	PPROM, malpresentation (breech), fetal growth restriction, prematurity, NICU stay

On per vaginum examination two vaginal openings with a longitudinal septum felt leading into two separate cervix were appreciated (Figure 4).

She was taken for caesarean section for indication primigravida with preterm breech presentation with fetal growth restriction. Intraoperatively there were two separate uterine cavities with pregnancy in right side was noticed (Figure 5).

An alive female baby of weight 1700gms was delivered by breech extraction. Baby was kept in NICU for 15 days. Then both mother and baby got discharged in satisfactory condition.

DISCUSSION

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

Normal development of the mullerian ducts mainly depends on the completion of three important phases: organogenesis, fusion and septal resorption. Organogenesis is characterized by the formation of both mullerian ducts.

Failure of organogenesis results either in uterine agenesis/hypoplasia or a unicornuate uterus. Fusion is characterized by fusion of the ducts to form the uterus. Failure of complete fusion results in a bicornuate or didelphys uterus. Septal resorption involves subsequent resorption of the central septum once the ducts have fused. Defects in septal resorption result in a septate or arcuate uterus.

The prevalence of congenital uterine anomalies (CUA) varies significantly, with reports ranging from 0.06 to 38%.[2] The pregnancy rate of women with CUA is not much different from that of women with a normal uterus, and pregnancy can be well maintained and lead to normal delivery. However, the frequency of obstetrical complications, such as miscarriage, preterm birth, intrauterine growth restriction (IUGR), and malpresentation, is high, depending on the type and severity of CUA.[3,4]

In a systematic review, the prevalence of mullerian duct anomalies was 5.5% in an unselected population, 8% in infertile women, 12.3% in women with a history of miscarriage, and 24.5% in women with a history of miscarriage and infertility.[5] In a literature review regarding infertile and fertile women with mullerian duct anomalies, the frequencies of specific anomalies were septate uterus (35%), bicornuate uterus (26%), arcuate uterus (18%), unicornuate uterus (10%), didelphys (8%), and agenesis (3%).[6] Septate uterus is associated with a higher rate of reproductive failure.

Most of the studies in unselected population noted that arcuate uterus is most common anomaly but historically most common anomaly is bicornuate uterus. Arcuate uterus rarely found with adverse outcome.[7] As per Shuiqing et al recurrent pregnancy losses, preterm birth and malpresentation are major problems with bicornuate anomaly.[8] Other studies showed that there is increase rate of fetal malpresentation at delivery with canalization defect i.e. with septate and subseptate uterus.[8-10]

Two-dimensional USG, which is widely available, has a high sensitivity for uterine anomalies, with a range of 90% to 92%, and thus provides an excellent screening tool, but a general index of suspicion is essential to increase the probability of detecting mullerian anomalies during

routine ultrasound evaluation.[11] MRI represents a powerful imaging tool that has become complementary in the assessment of mullerian duct anomalies.[12]

CONCLUSION

Mullerian anomalies have a significant adverse impact on obstetric outcomes. Diagnosed cases of mullerian anomalies are like the tip of iceberg in terms of their diagnosis and defects. High suspicion index should be kept with all patients coming with infertility, recurrent pregnancy loss, preterm labor, malposition and malpresentation and bad obstetric history. They should be subjected to detail pelvic examinations like USG, HSG, laparo-hysteroscopy and MRI as they are readily available nowadays. Favorable outcome can be achieved by early diagnosis with the help of advanced modality and possible surgical interventions.

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