Case Report

Pregnancies in anomalous uterus: series of three cases

Shravani Mohite, Bennur N. Harshitha, Sunil Sharma[1], Kalpana Gupta[1]

Department of Obstetrics and Gynecology, MGM Hospital, Navi Mumbai, Maharashtra, [1]Department of Obstetrics and Gynecology, MGM Medical College and Hospital, Navi Mumbai, Maharashtra, India

Abstract

Uterine malformations can result from various alterations in the normal development of Mullerian ducts that make up a diverse category of congenital anomalies. In most cases, the defect remains undiagnosed and exhibits the normal number of chromosomes. Very few malformations require any intervention after thorough investigations. The most frequently used classification by the American Society for Reproductive Medicine is comprehensive, but does not include cervical or vaginal malformations. The European Society of Human Reproduction and Embryology has postulated a consensus that precisely shows independent cervical malformations.

Keywords: Classification, female genital tract, menstrual symptoms, Mullerian anomaly, pregnancy loss

Address for correspondence: Dr. Bennur Nagabhushana Harshitha, Department of Obstetrics and Gynecology, MGM Hospital, Sector-4E, Kalamboli, Navi Mumbai 410218, Maharashtra, India.
E-mail: harshithabn02@gmail.com

INTRODUCTION

Uterine malformation occurs due to developmental congenital anomalies. During embryogenesis, abnormal development of Mullerian ducts prevents the formation of the normal female genital tract. The etiology remains unknown in the majority of cases. The defect remains undiagnosed in most of the patients as such malformations may not produce any symptoms at all. Others may have amenorrhea, recurrent pregnancy loss, infertility, and dysmenorrhea. The uterine defects may be diagnosed by laparoscopy, hysteroscopy, hysterosalpingography (HSG), 3D ultrasound, or magnetic resonance imaging (MRI). The only treatment modality available for uterine anomalies is surgery, but one may not require any intervention. After a thorough evaluation of a particular malformation, a mode of management is determined. Surgery may correct the defect, eliminate menstrual symptoms and sexual discomfort, or improve fertility.

CASE REPORT 1

Patient Mrs. X, 27 years, female, primigravida with the gestational age of 39 weeks and 4 days came to the hospital in labor. It was a spontaneous conception with no antenatal high-risk factors associated. The ultrasound examination done at 35 weeks gestation showed no abnormality with single live gestation, cephalic presentation, and placenta on the right lateral side of the uterus.

Per abdominal examination showed normal contour of the uterus corresponding to term gestation. The uterus was irritable and 140–145 bpm fetal heart sounds. On per

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speculum examination, there were two distinct cervices seen. There was a vertical vaginal septum [Figures 1 and 2]. The right-sided cervical opening was patent which was slightly dilated and 30% effaced; the other cervical opening was a blind pouch. No spotting or bleeding per vaginum was noted. The patient and relatives counseled for the need for cesarean section (C-section) because of vaginal septum and possibility of cervical dystocia. She was subsequently taken up for C-section.

Intraoperatively, the baby was delivered in vertex presentation. Single uterine cavity was noted with a single cervical opening internally. The uterus was arcuate (asymmetrical). The left-sided tube was long and thinned out; the right-sided tube was normal. The ovaries were normal in appearance. The operative procedure was uneventful, with no intrapartum or postpartum hemorrhage. The patient was discharged on the 5th postoperative day.

CASE REPORT 2

Patient, Mrs. Y, 24 years, female, primigravida with 38 weeks and 6 days gestation came to the hospital with complaints of pain in the abdomen for 2 days. The patient was referred to us from a peripheral hospital because of a footling presentation for further management. On evaluation, the patient had no antenatal high-risk factors.

On examination, per abdomen was corresponding to the gestational age with normally appearing contour with ill-sustained contractions. The fetal heart sounds were 140–150 bpm. Per speculum examination showed footling presentation. The patient was taken up for an emergency C-section because of a breech with a footling presentation. Intraoperatively, baby delivered by breech.

The patient had a bicornuate uterus with the pregnancy in one horn and a patent cavity in the non-pregnant horn of the uterus [Figures 3 and 4]. Each horn laterally had a tube and an ovary. No other abnormality was observed. The patient had an uneventful postoperative period.

CASE REPORT 3

Patient, Mrs. Z, 30 years, female, gravida 2 abortion 1 with 40 weeks gestation came to the hospital with complaints of premature rupture of membranes. The ultrasound examination done at 38 weeks gestation showed single live intrauterine pregnancy with the anterior fundal placenta; no other abnormality was recorded.

On further examination, per abdomen uterine height was corresponding to the gestational age, the uterine contour was normal, and the uterus was relaxed. Fetal heart sounds were normal (140–150 bpm). Per speculum examination showed healthy looking cervix and vagina with no obvious abnormality. The positive nitrizine test confirmed premature rupture of membranes. On per vaginal examination, the

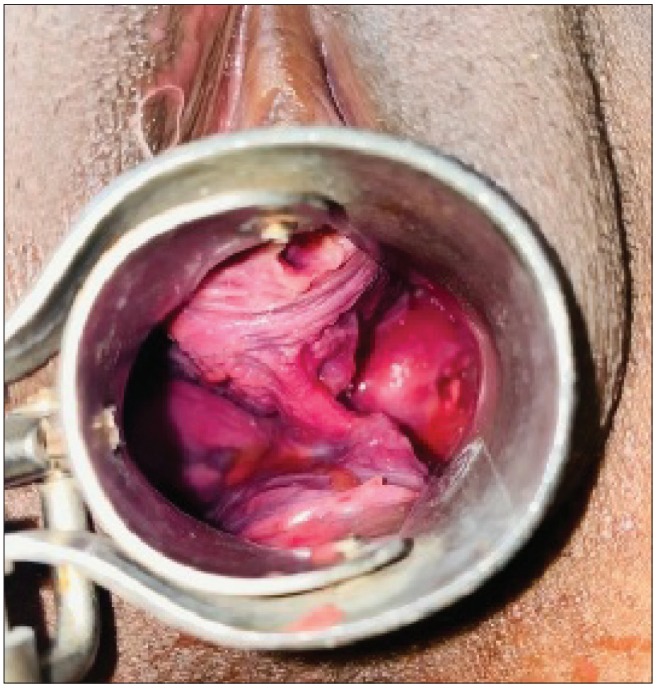

Figure 1: Per speculum examination showing two cervical openings with midline vaginal septum

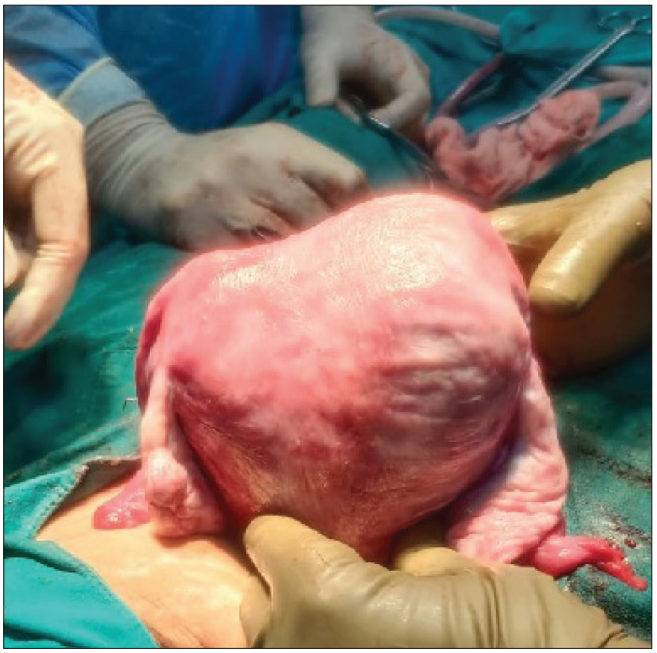

Figure 2: The asymmetrical uterus with single cavity at C-section after delivery of the baby. Uterus was asymmetrical in shape with single uterine cavity

cervix was uneffaced; in a posterior position and admitted tip of the finger, the head was not engaged.

Induction of labor was done and continuous fetal heart rate monitoring was done. There was no change in Bishop's score in 24 h. She was taken up for a C-section. Intraoperatively, the baby was delivered in cephalic presentation, and deflexion of the head was observed. While delivering the placenta and membranes, a thick transverse septum in the uterine cavity arising from the posterior wall of the uterus and about 4 cm broad not attached to the anterior wall was seen. Bilaterally, tubes and ovaries were normal with no other visible congenital anomalies. The operative procedure was uneventful.

DISCUSSION

In a developing female embryo, two paired Mullerian ducts are present. After fusion, they develop into the female reproductive tract including fallopian tubes, uterus, cervix, and upper two-thirds of the vagina. If the two halves fail to fuse or if the fusion is partial, the female may be born with a malformed female genital tract. In some women along with genital tract malformations,[1] certain renal defects are also present such as renal agenesis (absence of one kidney), crossed fused renal ectopia, or duplex kidney. Drugs such as diethylstilbestrol (DES) also showed a direct co-relation with Mullerian tract anomalies.[2]

Initially, a clinical examination may guide us to a diagnosis. The diagnosis is confirmed by ultrasound sonography (USG), HSG, hysteroscopy, laparoscopy, and MRI. After the extent of the abnormality is clear, a management strategy for that particular patient can be decided. Very few genital tract malformations need surgical intervention or reconstruction (not recommended for unicornuate, bicornuate, or didelphys uterus), but most of them have successful pregnancies with or without surgery. Some women with recurrent pregnancy losses or with cervical atresia or hypoplasia may benefit from transabdominal or transvaginal cervical cerclage, after determining cervical competency and value of prophylactic cerclage.[3] In rare cases, surgical correction may lead to permanent infertility, and hence the patient should be counseled adequately beforehand.

The AFS (American Fertility Society) classification[4,5] is a comprehensive one but has several limitations as there are inadequately represented anomalies. More recently, the ESHRE (European Society of Human Reproduction and Embryology)[6] instigated an anatomy-based concord of congenital anomalies of the female genital tract in a broad-spectrum system that encompasses "segmentary defects."

Case 1 (double cervix with single uterus) and case 3 (partial transverse intra-uterine septum) were the unusual findings observed which have not been yet reported in any classifications. An anatomically similar case was depicted in the literature.[7] In contrast, a case of the transverse vaginal septum (TVS) has been reported, which is one of the rarest anomalies, and its incidence is reported to be 1 out of 70,000 females.[8] Therefore, many cases are thus

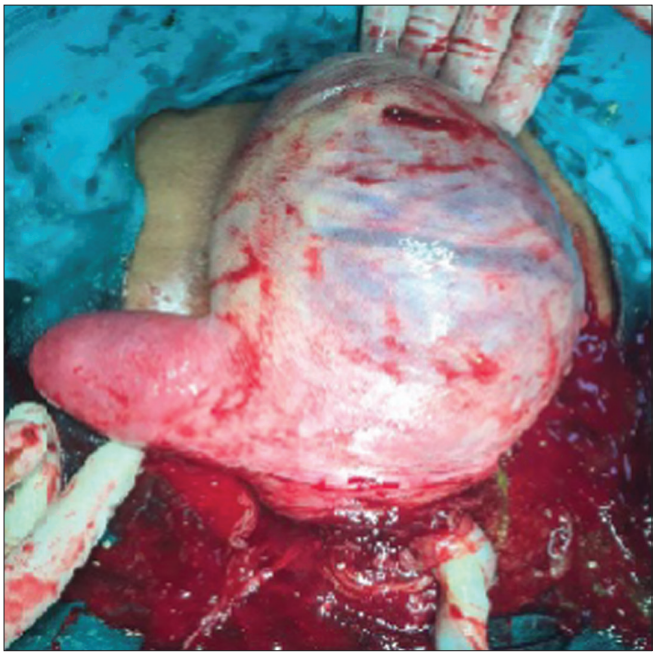

Figure 3: Per operative finding: Bicornuate uterus

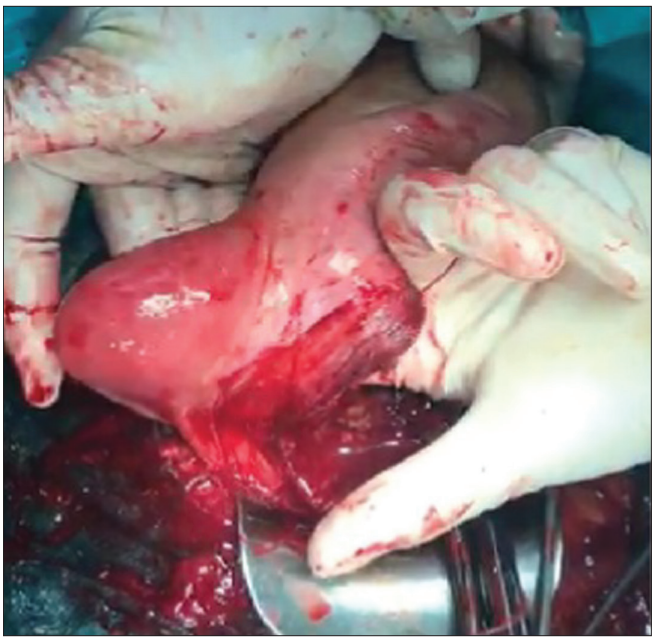

Figure 4: Patent uterine cavity in left (non-pregnant) horn of the uterus

not recorded and need to be meticulously analyzed and recorded when presented.

Very few uterine malformations need surgical intervention or reconstruction, but most of them have healthy, successful pregnancies, even without surgery.[1] The surgical intervention required depends on the individual issue and it greatly reduces the rate of pregnancy loss associated with Mullerian malformations. Surgery is usually not recommended for women with unicornuate, bicornuate, or didelphys uterus.[1] Pregnancy complications with a malformed uterus include malpresentations, premature rupture of membranes, and incompetent cervix.[9] Most of the women with any significant uterine malformation have no difficulties with conception, although it affects the lie and presentation of the baby in later pregnancy, rendering to a C-section for termination when indicated.

CONCLUSION

The embryological development of the female reproductive tract is not completely understood. There are several classifications for congenital anomalies of the female genital tract, but none of them was comprehensive. Many times, there occur cases that do not fit into any classification. Hence, awareness of this fact will lead to targeted investigation and a realistic diagnosis.

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Conflicts of interest

There are no conflicts of interest.

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