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Uterine Didelphys with Pregnancy and Obstructed Labor: Intrapartum Course Complicated by a Rare Uterine Anomaly

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ABSTRACT

Mullerian duct anomalies (MDAs) are congenital anatomic abnormalities of the female genital tract that arise from non-development or non-fusion of the mullerian ducts or failed resorption of the uterine septum, with a reported incidence of 0.1-10.0%. MDAs are clinically important because they are associated with an increased incidence of impaired fertility, menstrual disorders and obstetric complications. We hereby report a case of a primigravida with full-term pregnancy with obstructed labor referred from a primary health center. During the course of examination, she was found to have congenital abnormality of uterus and vagina. She underwent an emergency cesarean section with good perinatal outcome. Women with uterus didelphys belong to a high-risk group, although pregnancy outcome is comparatively good.

Keywords: Mullerian duct anomalies, congenital anatomic abnormalities, obstructed labor, uterus didelphys

The true incidence of congenital uterine anomalies in the general population and among women with recurrent pregnancy loss is not known accurately. Although incidences of 0.1-10% have been reported, the overall data suggest an incidence of 1% in the general population and 3% in women with recurrent pregnancy loss and poor reproductive outcome. Female genital tract develops from 3 sites, ovaries from the germ cells that migrate from the yolk sac into the mesenchyme of the peritoneal cavity and develop into ova and supporting cells; lower third of vagina develops from the ascending sinovaginal bulb; and uterus, fallopian tubes and upper two-thirds of vagina develop from the fusion of two mullerian ducts. Incomplete fusion of the mullerian or paramesonephric ducts results in the most common types of uterine malformation: uterus didelphys, uterus bicornis bicollis, uterus bicornis unicollis, uterus subseptate, uterus arcuatus and uterus unicornis. Uterus bicornis bicollis is characterized by double or single vagina, double cervix and two single-horned uterus which show partial fusing of their muscular walls with duplication running right down to the uterine orifice. Congenital anomaly of the mullerian duct system can result in various urogenital anomalies including uterus didelphys with blind hemivagina and ipsilateral renal agenesis.[1]

The diagnosis of this condition is usually made after menarche, but its rarity and variable clinical features may contribute to a diagnostic delay for years after menarche.[2] With timely and accurate diagnosis, appropriate management is likely to provide the best possible outcome for all such patients.

CASE REPORT

A 20-year-old primigravida, wife of a farmer, who was referred from a primary health care center, reported to labor room on 31st May 2009 at 09:13 pm with a history of 9 months of amenorrhea and leak per vagina since 3 days and pain abdomen since 3 days. She was married for 1 year.

General examination was unremarkable. On abdominal examination, uterus was term size and cephalic presentation and there was an unusual contour of abdomen on right side. Fetal heart sound was localized

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Figure 1. Per speculum examination showing right and left hemi vagina with complete vertical vaginal septum.

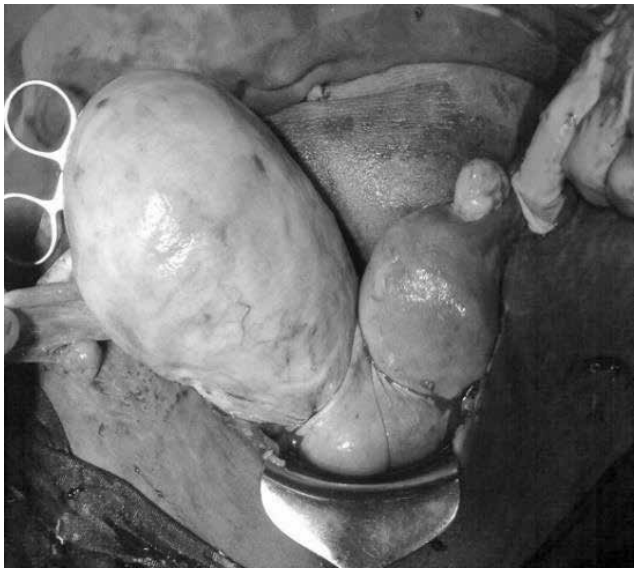

Figure 2. Anterior view of gravid right hemi-uterus with incision on the lower segment and nongravid left hemi-uterus.

in the right iliac fossa and was 146 bt/min. Per speculum examination revealed complete vertical vaginal septum (Fig. 1) and bulging of vaginal fornices in right hemivagina, active clear liquor leak demonstrated on the blade of speculum in right hemivagina. Internal examination revealed right cervix was partially effaced and 2 cm dilated and presenting part at minus three station, and in left hemivagina cervix was uneffaced and os closed.

On clinical examination, the pelvis was found to be grossly contracted. A decision for emergency cesarean

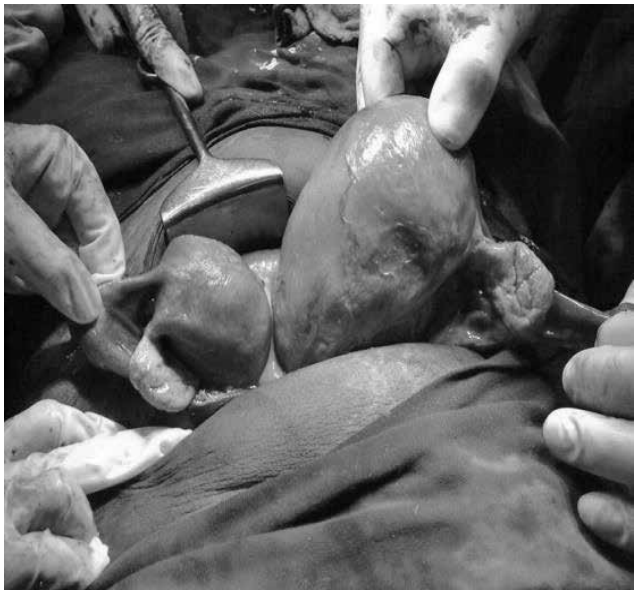

Figure 3. Posterior view of didelphic gravid hemi-uterus.

section was made. She underwent an emergency cesarean section on 01/06/09 at 12:30 am; a full-term male baby of weight 3.2 kg was extracted who cried after delivery. Uterus was found to be bicornis bicollis and pregnancy was found in the right hemi-uterus (Figs. 2 and 3). Postoperative stay was uneventful and sutures were removed on 7th postoperative day and the patient was discharged the same day.

DISCUSSION

Mullerian anomaly rate is reported between 0.1-1% in general population with significantly higher rates associated with infertility and reproductive wastage. Uterus didelphys is one of the least common anomalies, representing approximately 5-7% of müllerian defects. The reproductive outcomes are slightly better than those of women with unicornuate uterus. Acién reported that poorest viability results were found in the bicornuate (40%), arcuate (45%) and septate uterus groups (59%) and rates of children surviving for more than 7 days were around 70% in the bicornis bicollis, didelphys, unicornuate and subseptus uterus groups.[3] Maneschi et al reported live birth rate of 81% and suggested that reproductive and gestational performances of women with uterus didelphys are preserved. In patients with infertility complaints, associated causes must be ruled out before surgical correction. If these are present, their correction must be attempted as first therapeutic step, and term pregnancy with live baby is the rule.[4] Interestingly, pregnancy has been observed consistently in right horn.[5]

In case of single pregnancy, it is in the right uterus in uterus didelphys. Even in this present case, pregnancy has been found in the right hemi-uterus. Heinonen and colleagues observed a cesarean section rate of 82% and fetal survival rate of 67.5% and premature delivery of 21%.[6] All the patients also had a longitudinal vaginal septum.

Three-dimensional sonography has contributed the most and has become the investigation of choice in units where available. Raga et al and Wu et al reported that three-dimensional sonography offered a 100% specificity and is reproducible and reliable noninvasive diagnostic procedure for the exclusion of uterine anomalies and was able to differentiate between the different anomalies.[7,8] Magnetic resonance imaging (MRI) is the most sensitive imaging modality for congenital anomalies.

CONCLUSION

Congenital uterovaginal anomalies can have adverse effects on pregnancy outcome. Early diagnosis and an aggressive evaluation of any patient presenting with mid-trimester abortion, premature labor, malpresentation, prevent additional pregnancy wastage and maternal morbidity and are likely to provide the best possible outcome for all such patients.

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Deficiency of Trace Elements in Patients with Alcoholic Hepatitis

Malnutrition is normally seen in patients with alcohol-related liver disease. Trace elements such as cobalt, copper, iron, selenium and zinc are crucial for several cellular processes including antioxidant pathways. The prevalence and significance of trace element deficiency in alcoholic hepatitis is not clearly understood.

A study was therefore designed to ascertain the prevalence of trace element deficiency and its association with clinical outcomes among alcoholic hepatitis patients.

Serum was obtained from patients with alcoholic hepatitis, alcohol-related cirrhosis and healthy volunteers. Investigators quantified the trace element concentration using inductively coupled plasma mass spectrometry. The link between trace element levels and development of infection within 90 days and mortality within 28 and 90 days was determined.

Sera were obtained from 302 patients with alcoholic hepatitis, 46 with alcohol-related cirrhosis and 15 healthy controls and were subjected to an evaluation for trace element levels. The prevalence of zinc deficiency was 85% and that of selenium deficiency was 67% in alcoholic hepatitis patients. It was found to be higher in patients with alcoholic hepatitis as compared to patients with alcohol-related cirrhosis (72% and 37%, respectively). Zinc, chromium, copper and selenium were shown to be significantly different between the groups. Iron deficiency predicted infection within 90 days while zinc deficiency appeared to predict mortality within 28 and 90 days.

Trace element deficiency was found to have a high prevalence in patients with alcoholic hepatitis and was associated with infection and mortality. Supplementation with certain trace elements could possibly enhance clinical outcomes in these patients.

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