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Case Series

Case series on mullerian anomalies incidence during caesarean section over one year period

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ABSTRACT

Congenital uterine anomalies occur due to abnormal fusion of Mullerian duct during embryonic life. It is associated with high incidences of reproductive failures and adverse obstetrical outcomes. It may be associated with malpresentation, preterm labour or recurrent pregnancy losses. The association of congenital anomalies and early pregnancy loss has been well established but its adverse effect on late pregnancy in form of malpresentation, preterm deliveries has not yet been elaborated. Hence, this case series aimed to summarize the incidence and perinatal outcome of pregnancy in women with congenital uterine anomalies undergoing cesarean section. This was a case series which was conducted on women who underwent cesarean section at P. C. Sethi hospital, Indore between time period of October 2020 to September 2021. Out of total 1835 cesarean undergoing patients, 12 patients were found to have uterine anomalies. Out of 12 patients, 9 (75%) patients were associated with malpresentation, 4 (33.3%) patients had preterm delivery and 6 (50%) patients had low birth weight babies. Hence it can be said that women with congenital uterine anomalies were at higher incidence of malpresentation and preterm deliveries. Presence of congenital uterine anomalies were associated with adverse obstetrical outcome. This knowledge warrants the need for a larger case control study to extrapolate these findings to the general population and also to recommend the need for universal prenatal screening for uterine anomalies to improve the obstetrical and perinatal outcome in patients with uterine anomalies.

Keywords: Mullerian anomaly, Malpresentation, Preterm labour, Low birth weight babies

INTRODUCTION

Mullerian duct anomalies are congenital anomalies of the female genital tract arising from abnormal embryological development of the Mullerian ducts.[1] These abnormalities can include failure of development, fusion, canalization or reabsorption, which normally occurs between 6 and 22 weeks *in utero*. Most sources estimate an incidence of these abnormalities to be 0.5 to 5.0% in the general population. Septate uterus is the commonest uterine anomaly with a mean incidence of ~35% followed by bicornuate uterus (~25%) and arcuate uterus (~20%).[2] A didelphys uterus, also known as a double uterus, is one of the least common amongst MDAs. Duplication of the uterus results from lack of fusion of paramesonephric ducts in a local area or throughout their normal line of fusion. In uterus didelphys, individual horns are fully developed, normal in size with two cervices present. Each uterus has one fallopian tube. Some patients are asymptomatic while some patients suffer with primary infertility.[3] In some patients, normal pregnancy can occur but obstetrical complications such as spontaneous abortion, still birth, preterm birth, malpresentation are frequent.[3]

Unicornuate and didelphys uterus have term delivery rates of ~45% and the pregnancy outcome of patients with untreated bicornuate and septate uterus is also poor with term delivery rates of only ~40%.[3] Arcuate uterus is

associated with a slightly better but still impaired pregnancy outcome with term delivery rates of ~65%.

CASE SERIES

Out of total 1835 caesarean section undergoing patients, 12 patients were found to have uterine anomalies. Out of 12 patients, 9 (75%) patients had associated malpresentation, 4 (33.3%) patients had preterm delivery and 6 (50%) patients had low birth weight babies. Hence it can be said that women with congenital uterine anomalies were at higher incidence of malpresentation and preterm deliveries.

Table 1: Distribution of Mullerian anomalies.

Type of anomaly	Percentage (out of 12)
Unicornuate uterus	41.66
Bicornuate uterus	33.33
Arcuate uterus	16.66
Septate uterus	8.33

Table 2: Percentage of various fetal presentations associated.

Presentations	Percentage
Cephalic	25
Podalic	58.33
Shoulder	16.66

Table 3: Perinatal outcome associated with anomalies.

Type of anomaly	Percentage of low birth weight of baby (%)	Gestational age at birth
Unicornuate uterus	4 out of 5=80	3 were preterm (less than 37 weeks)
Bicornuate uterus	2 out of 4=50	1 case was preterm, other early term
Arcuate uterus	0	Both were late term
Septate uterus	0	Case was at term

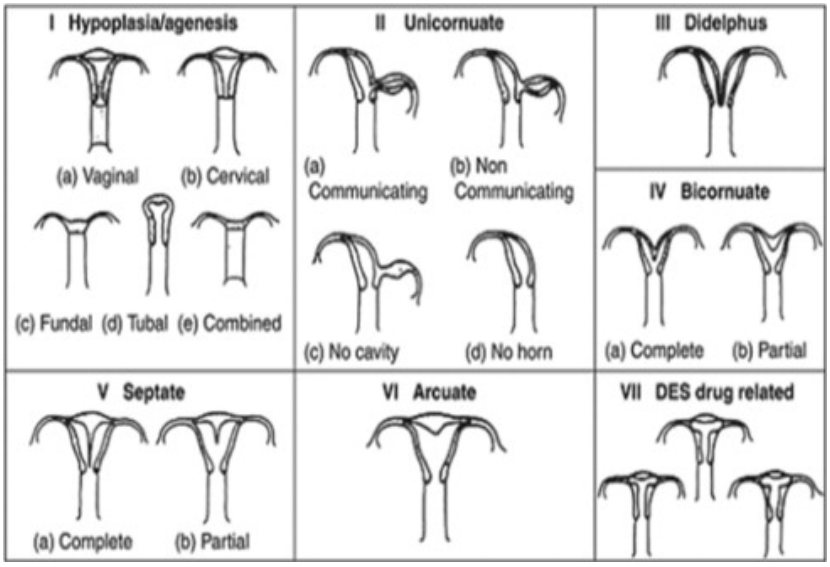

Figure 1: Classification of Mullerian anomalies by American fertility society.

Case presentation

There were 5 cases with unicornuate uterus which were detected on either antenatal routine ultrasonography on outpatient visits, out of which 2 were incidentally detected during caesarean section for first stage labour arrest and fetal distress. In these women 4 had podalic presentations which were seen on per abdomen and per vaginal examinations. 3 babies were born before 37 completed weeks of gestation and 4 had low birth, thus were admitted for observation in neonatal intensive care unit.

4 cases presented with bicornuate uterus landing up in emergency section, one had non communicating rudimentary horn with podalic presentation, with baby weight just 1.8 kgs and was preterm. Other 3 cases had shoulder presentation in 2 of them and one baby was in low birth weight category.

In other 3 cases in which 2 had arcuate uterus and one with partial incomplete septum were discovered incidentally during cesarean section and had cephalic presentation, were delivered at term gestation and had birth weight above 2.5 kgs.

DISCUSSION

Mullerian anomalies prevalence was exactly unknown. But recent study showed it was 0.1 to10%.[2] Incidence of singleton pregnancy in uterine didelphys was 1 in 3000, incidence of twin gestations was 1 in 5 million and incidence of triplets in uterine didelphys was 1 in 25 million. Embryology: failure of the fusion of two paramesonephric ducts, completed non fusion resulted in uterine didelphys, partial fusion of Mullerian ducts resulted in bicornuate and septate uterus.

Classification[8]

The most recent and widely used classification systems for the different types of Mullerian duct abnormalities were created by Buttram and Gibbons and the American fertility society. When classifying these anomalies solely based on abnormal development, four major types were apparent. Complete or partial failure of Mullerian duct development (agenesis; unicornuate uterus without a rudimentary horn); failure of ducts to canalize (unicornuate uterus with a rudimentary horn without proper cavities); incomplete fusion of Mullerian ducts (bicornuate or didelphys uterus; incomplete reabsorption of uterine septum (septate or arcuate uterus).

Various methods of investigations[4]

Investigations were usually prompted on the basis of such findings as well as when reproductive problems were encountered. Helpful techniques to investigate the uterine structure were transvaginal ultrasonography and sonohysterography hysterosalpingography, MRI and hysteroscopy, laparoscopy/laparotomy.

CONCLUSION

Congenital uterine anomalies are common but their effect on reproductive outcome is unclear. Many studies were conducted which showed relation between uterine anomalies and infertility or recurrent pregnancy losses, but its effect on later trimester of pregnancy is less studied. From this case series it was found that occurrence of malpresentation, preterm deliveries and low birth weight is higher in women with congenital uterine anomalies. Hence it can be concluded that presence of uterine anomalies are a risk factor for preterm delivery, malpresentation and low birth weight baby. This knowledge can be used to recommend screening for uterine anomalies in women with recurrent pregnancy losses, previous low birth weight babies or malpresentation in previous pregnancy.

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