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

Mukta Jain, Komal Vijaywargiya, Aayushi Ruia*

INTRODUCTION

Mullerian duct anomalies are congenital anomalies of the female genital tract arising from abnormal embryological development of the Mullerian ducts. 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%). 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. In some patients, normal pregnancy can occur but obstetrical complications such as spontaneous abortion, still birth, preterm birth, malpresentation are frequent.

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%. Arcuate uterus is

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

**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

 Müllerian anomalies prevalence was exactly unknown. But recent study showed it was 0.1 to 10%. 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

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; unicorionate 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

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 sonohysteroscopy hystersalpingography, 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 delivery 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.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

REFERENCES

1. Rao SS, Anitha GS, Chandralekha P. Pregnancy in uterus didelphys delivered by caesarean delivery: case report. Int J Reprod Contracept Obstet Gynecol. 2016;5(7).
2. A Retrospective Study To Find The Incidence Of Uterine Anomalies In Patient Undergoing Cesarean Section, And Their Obstetrical Outcome. Dr Kirti Solanki , Dr Swati Kochar, Dr Priyanka Gaur, Dr Laxmi Poonia, Dr Krishna.
3. Ribeiro SC, Tormena RA, Peterson TV, Gonzáles MDO, Serrano PG, Almeida JAM, et al. Müllerian duct anomalies: review of current management. Sao Paulo Med J Rev Paul Med. 2009;127(2):92-6.
4. Grimbizis GF, Camus M, Tarlatzis BC, Bonitis JN, Devroey P. Clinical implications of uterine malformations and hysteroscopic treatment results. Hum Reprod Update. 2001;7(2):161-74.
5. Chan YY, Jayaprakasan K, Zamora J, Thornton JG, Raine-Fenning N, Coomarasamy A. The prevalence of congenital uterine anomalies in unselected and high-risk populations: a systematic review. Hum Reprod Update. 2011;17(6):761-71.
6. Acien P. Incidence of mullerian defects in fertile and infertile women. Hum Reprod. 1997;12(7):1372-6.
7. Buttram VC, Gibbons WE. Mullerian anomalies: a proposed classification (an analysis of 144 cases). Fertil Steril. 1979;32(1):40-6.
8. The American Fertility Society classifications of adnexal adhesions, distal tubal occlusion, tubal occlusion secondary to tubal ligation, tubal pregnancies, mullerian anomalies and intruterine adhesions. Fertil Steril. 1988;49(6):944-55.

Cite this article as: Jain M, Vijaywargiya K, Ruia A. Case series on mullerian anomalies incidence during caesarean section over one year period. Int J Reprod Contracept Obstet Gynecol 2022;11(1):243-5.