

# CONGENITAL UTERINE ANOMALIES OBSERVED IN PREGNANT FEMALES PRESENTING AT PUBLIC SECTOR GOVERNMENT MATERNITY HOSPITAL OF PESHAWAR, KHYBER PAKHTUNKHWA

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## ABSTRACT

**Objectives:** The objective of current study is to find out the prevalence and types of the uterine anomalies in the pregnant patients in our population of Khyber Pakhtunkhwa.

**Materials and Methods:** This was a descriptive study carried out in a public sector maternity hospital of Peshawar. A total of 834 pregnant ladies fulfilling the inclusion criteria were admitted in the hospital during the aforementioned time period for delivery. All patients were examined per vaginam and also ultrasound examinations were performed. The normal anteverted position or anomalous retroverted positions of uterus along with other anomalies like septate uterus and indented uterine fundus were recorded by ultrasonography.

**Results:** Out of 834 cases 108 cases were delivered by cesarean section while 726 cases were delivered by normal vaginal delivery. The number of uterine anomalies were recorded. It was found that out of 834 patients, there was one patient (0.11%) having septate uterus. There was another single case of indented uterine fundus (0.11%) which was discovered accidentally during cesarean section. The indication for surgery was transverse lie of the fetus. Two out of 834 cases were found to be having retroverted uteri. They were found to be having retroverted uteri (0.23%) during their routine ultrasonographic examination.

**Conclusion:** This is concluded from the current study that women having congenital uterine anomalies have greater risks of unfavorable pregnancy outcomes and need to be properly treated to save both mother and baby. Even though the patients with uterine anomalies may end up with normal and successful pregnancy but still they have amplified risk of complications so the gynaecologists should properly investigate the women during their antenatal visits and should be well aware of the patient's condition and the women should also have awareness regarding their anomalous uterus.

**Keywords:** Anomaly, Retroverted uterus, Septate uterus, Indented uterine fundus.

## INTRODUCTION

Female reproductive tract consists of from below upwards, vagina, uterus with Fallopian tubes and ovaries. The uterus is an empty muscular organ with thickened walls located in true pelvis with urinary bladder anteriorly and rectum posteriorly.<sup>1,2</sup>

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The major parts in which the uterus is divided are Body (upper 2/3<sup>rd</sup>) and Cervix (lower 1/3<sup>rd</sup>).<sup>2</sup> The two tube like structures called Fallopian tubes have their ostia opening into the cavity of the upper part of the body of the uterus. The uterus has a very significant function in reproduction involving transport of sperms, implantation of embryo, provide nourishment to developing fetus, labor and delivery of the baby.<sup>3,4</sup> The organs of reproduction including the uterus, fallopian tubes and upper 4/5<sup>th</sup> of vagina are shaped when still in utero. Normally the uterus lies at an angle with vagina in anteverted position.<sup>5,6</sup> There is another trivial angle between body of the uterus and its cervix called anteverted position.<sup>5</sup> In normal upright position, the uterine fundus is present horizontally beneath the imaginary plane joining the promontory of sacrum to the upper part of the pubis while the external os of cervix lies at the point of spines of ischeal bones.<sup>7</sup> The factors responsible for the maintainance of this horizontal position of fundus are: tone of the uterine muscles, intra-abdominal pressure acting on posterior side and also the ligaments attached to the cervix. Sometimes the uterine fundus may curve posteriorly disrupting the normal anatomy of uterine position and the anomalous positions are called retroverted and retroflexed. There is increased intra-abdominal pressure on the anterior side of uterus and the part of cervix directed in vagina is pushed antero-superiorly while the body of uterus is headed backwards.<sup>6</sup> These reproductive organs of female are produced by the union of two ducts called Mullerian or paramesonephric ducts. The parts formed by these ducts are most of the upper part of vagina, cervix and uterine body. The Mullerian duct has two upright cranial and caudal parts and in-between horizontal part. The fallopian tubes are formed by the head end of the duct while the tail end of the Mullerian ducts combine to form uterovaginal primordium which forms the inferior part of uterus. An array of uterine anomalies may result due to failure of fusion of the two Mullerian ducts. The anomaly resulting from failure of development of one or both the Mullerian ducts is called agenesis or unicornuate uterus with no rudimentary horn. Lack of canalisation of one or both the ducts may form rudimentary uterus or unicornuate uterus with a rudimentary horn. Bicornuate uterus may form when the two ducts fail abnormally. The anomaly called septate uterus results due to no desertion of the prevailing septum between the two ducts. Another

anomaly called arcuate uterus has an indentation in uterine fundus. This indentation leads to concavity of the fundus of uterus towards cavity of uterus due to incomplete resorption of the septum.<sup>1,4,8-11</sup>

It is difficult to evaluate the prevalence of congenital anomalies of uterus in a given population due to the fact that the most of the diagnostic procedures are invasive and can be infrequently used for low risk study sample population as most of these anomalies are without any symptoms. The patients having pregnancy along with anomalies of uterus usually have amplified threat for undesirable consequences of pregnancy. Some of the undesirable outcomes are premature delivery, delivery by cesarean section or limited growth of the developing fetus.<sup>12,13</sup> The objective of current study is to find out the prevalence and types of the uterine anomalies in the pregnant patients in our population of Khyber Pakhtunkhwa.

## MATERIALS AND METHODS

This is a descriptive study carried out in a public sector maternity hospital of Peshawar. Inclusion criteria was all females in the reproductive ages admitted for delivery whether to be delivered vaginally or having indications for cesarean section. Exclusion criteria was patients with ovarian cysts, malignancies and previous history of surgeries involving the reproductive tract of the females. A total of 834 pregnant ladies fulfilling the inclusion criteria were admitted in the hospital during the aforementioned time period for delivery. All patients were examined per vaginum and also ultrasound examinations were performed. The normal anteverted position or anomalous retroverted positions of uterus along with other anomalies like septate uterus and indented uterine fundus were recorded by ultrasonography.<sup>1,5,8,14</sup>

## RESULTS

The record of all the patients fulfilling the inclusion criteria delivered during the mentioned time period was analyzed. Also the type of delivery was noted whether the baby was delivered by cesarean section or delivered vaginally. Out of 834 cases 108 cases were delivered by cesarean section while 726 cases were delivered by normal vaginal delivery. The number of uterine anomalies were recorded. It was found that out of 834 patients, there was one patient(0.11%) having septate uterus. She was examined vaginally after being treated for post partum

hemorrhage during exploration and removal of clots. Almost 500 cc of blood and clots were removed from the uterine cavity and the septum was present anteriorly from cervix to fundus of the uterus. There was another single case of indented uterine fundus (0.11%) which was discovered accidentally during cesarean section. The indication for surgery was transverse lie of the fetus. The baby was normal when delivered. The placenta was lying anteriorly. Two out of 834 cases were found to be having retroverted uteri. They were found to be having retroverted uteri (0.23%) during their routine ultrasonographic examination. The cervix was found to be directed anteriorly per vaginal speculum examination. Both were delivered vaginally with no associated complication. The percentages are mentioned in the table 1.

**Table 1:**

Type of anomaly	Frequency (n= 834)	%age
Septate uterus	01	0.11
Indented fundus of uterus	01	0.11
Retroverted uterus	02	0.23

**DISCUSSION**

The congenital anomalies of uterus are comparatively frequent and sometimes without clinical manifestations. However complications associated with pregnancy and monthly cycles have been observed in females having congenital uterine anomalies. Most common complications include preterm labour or delivery by cesarean section, dystocia etc.<sup>15</sup> Some of the common uterine anomalies are retroverted uterus, Bicornuate or unicornuate uterus and septate uterus. Retroverted uterus is the deviation of uterus from its normal anteverted position with the cervix directed anteriorly instead of posteriorly. Although the retroverted position has no effect on parity of the woman but can lead to prolapse of the uterus. In the current study two cases were found to be having retroverted uteri. They delivered normal babies vaginally with no associated complications but in many cases complications like uterine prolapse, cystocele and incontinence of urine have been observed in women having retroverted uteri.<sup>5,6</sup> The anomalies related to canalization defects have greater risks of premature delivery, miscarriage at first trimester, abnormal presentation of the fetus at the time of delivery and post partum hemorrhage. In

the current study, there was one patient found to be having septate uterus which is a canalization defect. the patient had post partum hemorrhage shortly after delivery of a normal full term baby. About 500 cc of blood and clots were removed from the uterine cavity and during exploration a uterine septum was found anteriorly from cervix to uterine fundus. This finding correlates with case control study done in urban area of the Oslo and Buskerud municipality.<sup>16,17</sup> One of the patient was found to be having indentation in uterine fundus. The baby was delivered by cesarean section with the indication of transverse lie of the fetus. The placenta was present anteriorly.<sup>11,18,19</sup> These findings are compatible with the studies done on finding of prevalence of congenital uterine anomalies.

**CONCLUSION**

This is concluded from the current study that women having congenital uterine anomalies have greater risks of unfavorable pregnancy outcomes and need to be properly treated to save both mother and baby. Even though the patients with uterine anomalies may end up with normal and successful pregnancy but still they have amplified risk of complications so the gynaecologists should properly investigate the women during their antenatal visits and should be well aware of the patient’s condition and the women should also have awareness regarding their anomalous uterus.

**REFERENCES**

1. Jayashree A, Kumar U, Padmaja V, Vinodini L, Rani KS. AN ANALYSIS OF THE ROLE OF UTERINE MALFORMATIONS IN PRIMARY INFERTILITY-AN OBSERVATIONAL STUDY. *International Journal of Current Research and Review*. 2015;7(16):62.
2. Clement P, Giuliano F. Anatomy and physiology of genital organs–men. *Handbook of clinical neurology*: Elsevier; 2015. p. 19-37.
3. Hassan M-AM, Lavery SA, Trew GH. Congenital uterine anomalies and their impact on fertility. *Women’s Health*. 2010;6(3):443-61.
4. Akhtar AZ. Congenital abnormalities of genital tract-uterine malformation. *J Pak Med Assoc*. 1986;36(10):261-6.
5. Fidan U, Keskin U, Ulubay M, Öztürk M, Bodur S. Value of vaginal cervical position in estimating uterine anatomy. *Clinical Anatomy*. 2017;30(3):404-8.
6. Haylen BT. The retroverted uterus: ignored to date but core to prolapse. *International Urogynecology Journal*. 2006;17(6):555.

7. Nott JP, Bonney EA, Pickering JD, Simpson NA. The structure and function of the cervix during pregnancy. *Translational Research in Anatomy*. 2016;2:1-7.
8. Woelfer B, Salim R, Banerjee S, Elson J, Regan L, Jurkovic D. Reproductive outcomes in women with congenital uterine anomalies detected by three-dimensional ultrasound screening. *Obstetrics & Gynecology*. 2001;98(6):1099-103.
9. Hussain A, Jawaid H, Faisal N, Shah N, Kamal NS. Ruptured Rudimentary Horn Pregnancy Revealed on Emergency Laparotomy: A Case of Primigravida Presenting in a Developing Country. *Cureus*. 2018;10(5).
10. Fox NS, Roman AS, Stern EM, Gerber RS, Saltzman DH, Rebarber A. Type of congenital uterine anomaly and adverse pregnancy outcomes. *The Journal of Maternal-Fetal & Neonatal Medicine*. 2014;27(9):949-53.
11. Chandler T, Machan L, Cooperberg P, Harris A, Chang S. Müllerian duct anomalies: from diagnosis to intervention. *The British journal of radiology*. 2009;82(984):1034-42.
12. Medrano-Urbe FA, Enríquez-Pérez MM, Reyes-Muñoz E. Prevalence of uterine anatomical anomalies in Mexican women with recurrent pregnancy loss (RPL). *Gaceta medica de Mexico*. 2016;152(2):163-6.
13. Chan Y, Jayaprakasan K, Zamora J, Thornton J, Raine-Fenning N, Coomarasamy A. The prevalence of congenital uterine anomalies in unselected and high-risk populations: a systematic review. *Human reproduction update*. 2011;17(6):761-71.
14. Moghadam A, Jozi Z, Dahaz S, Nejad D. Septate Uterus as Congenital Uterine Anomaly: A Case Report. *Reprod Syst Sex Disord*. 2014;3(141):2.
15. Ravikanth R. Bicornuate Uterus with Pregnancy. *Journal of Basic and Clinical Reproductive Sciences*. 2017;6(2).
16. Lee D, Johnson J. Hysterotomy for retained placenta in a septate uterus: A case report. *Case reports in obstetrics and gynecology*. 2012;2012.
17. Nyfløt LT, Sandven I, Stray-Pedersen B, Pettersen S, Al-Zirqi I, Rosenberg M, et al. Risk factors for severe postpartum hemorrhage: a case-control study. *BMC pregnancy and childbirth*. 2017;17(1):17.
18. Souvizi B, Jafarzadeh Esfehiani R. A case of successful pregnancy in a complete bicornuate uterus. *Journal of Midwifery and Reproductive Health*. 2016;4(3):720-2.
19. Prior M, Richardson A, Asif S, Polanski L, Parris-Larkin M, Chandler J, et al. Outcome of assisted reproduction in women with congenital uterine anomalies: a prospective observational study. *Ultrasound in Obstetrics & Gynecology*. 2018;51(1):110-7.