Original Article

Female Genital Tract-Reproductive Performance With Its Variable Anomalies

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ABSTRACT

Objective: To observe the different presentation and reproductive performance of women with congenital anomalies detected by ultrasound, hysterosalpingography and on laparotomy.

Study Design: Prospective observational study.

Place and Duration of Study: This study was conducted in the Department of Obstetrics & Gynaecology at Peoples Medical College Hospital Nawabshah from January 2004 to December 2009.

Materials and Methods: All the women with congenital anomalies of genital tract detected clinically, by ultrasound and hysterosalpingography, attended the outpatient department or presented with a complication and operated; and or those who were incidentally diagnosed during cesarean section or on laparotomy were included in this study.

Results: 48 patients with different mullerian duct anomalies were detected during the study period. Their age varied from 15 to 40 years. Mullerian agenesis with absent vagina was found in 6 cases, transverse vaginal septum was found in an other 6 patients. These patients presented with primary amenorrhoea, haematometra and haematocolpos. Imperforated hymen was found in 10 patients. They also present with a primary amenorrhoea, mass in lower abdomen and cyclical pain, few patients presented with acute retention of urine. Longitudinal vaginal septum was found in 3 cases. They presented with dyspareunia and difficult labour. Bicornuate uterus was found in 9 cases. They presented with malpresentations, recurrent abortion and preterm labour. Unicornuate uterus was found in 3 cases. Who were presented with ectopic pregnancy. Uterus didelphys was found in 3 cases, 5 patients had arcuate uterus, 3 patients presented with congenital second degree uterovaginal prolapse.

Conclusion: Uterine abnormalities are not uncommon, although not all the types of uterine anomalies can affect the fertility but most of the time they have bad impact on fertility. Early diagnosis and treatment of these conditions may improve the fertility prospectus and also prevents various obstetrical complications.

Key Words: Genital tract abnormalities, Hysterosalpingography, Ultrasound Scan, Reproductive performance.

INTRODUCTION

Developmental anomalies of the mullerian duct represent some of the most fascinating disorders that obstetricians and gynaecologistists encounter[1]. The range of mullerian duct anomalies varies from minor uterine anomalies, duplication of uterus and vagina to agenesis of the mullerian duct.

Mullerian malformations are frequently associated with abnormalities of renal and axial skeletal system[1]. Due to wide variation in clinical presentation, mullerian duct anomalies may be difficult to diagnose clinically but because of the better availability of the recent diagnostic modalities such as transvaginal sonography, 3D ultrasound, hysterosalpingography, MRI and laparoscopy, detection of such anomalies could be possible. The imaging will help to diagnose and distinguish surgically correctable from inoperable conditions[2,3,4,5,6,7,8].

The reproductive outcome can be improved with early diagnosis and better treatment but generally poor reproductive performance prevail[9,10].

Incidence and prevalence

The actual incidence of mullerian duct anomalies in general population are not accurately known. Frequency varies widely and depends on various diagnostic methods implied during the studies. Most authors reported the incidence of mullerian duct anomalies varies from 0.1 – 3.5 %[11,12,13,14]. In women with infertility problem, the incidence is slightly higher (3 – 6 %)[1], women with recurrent abortion have an incidence of 5 – 10 %[15,16]. The most commonly reported anomalies are septate uterus, arcuate uterus, uterus didelphys, unicornuate uterus and hypoplastic uterus. The exact distribution depends on diagnostic tools, expertise and geographic location[17].

The aim of this study is to observe the mullerian duct anomalies found in our setup and its impact on reproductive performance and to share the experience regarding the diagnosis, complications and management.

MATERIALS AND METHODS

A prospective hospital based observational study was conducted in the Department of Obstetrics & Gynaecology at Peoples University of Medical and

Health Sciences Nawabshah from January 2004 to December 2009.

All the women with congenital anomalies diagnosed clinically by ultrasound, hysterosalpingography or presented with complication and those who were incidentally diagnosed during cesarean section and laparotomy were included in the study. All the women underwent clinical examination, most of them required anaesthesia for proper evaluation.

Ultrasonic screening of the associated renal tract anomalies was also done in all the patients. Treatment was carried out according to the facilities and expertise available. Some patients were referred to special centres for reconstructive surgery.

RESULTS

Forty Eight (48) patients with different congenital malformation were detected during the study period. Their age varied from 15 to 40 years, including the married and unmarried women. Mullerian agenesis with absent vagina was found in 6 patients. All these have well developed secondary sex characteristics and presented with a primary amenorrhoea, chromosomal analysis confirmed XX female. 4 patients were unmarried and 2 patients were married. One patient presented with apareunia and one patient presented with postcoital bleeding and tearing of vagina. Transverse vaginal septum was found in 6 patients, among them 2 patients had high vaginal septum while 4 patients had low vaginal septum. They presented with mass in lower abdomen and cyclical pain, concomitant urinary retention was detected in few cases. 4 were unmarried, 2 patients were married. All these presented with primary amenorrhoea, haematocolpos and haematometra. One patient had small hole in the septum, she menstruate regularly but complaining of severe dysparunia.

Imperforate hymen was found in 10 young girls. All had primary amenorrhoea, 2 of them presented with mass in the abdomen and 2 presented with acute retention of the urine. Bicornuate uterus was found in 9 cases, 3 of them presented with second trimester abortion, 2 patients came with preterm labour and 4 patients were diagnosed during cesarean section, performed for breech presentation and transverse lie. Arcuate uterus was found in 5 patients, among them one presented with breech presentation and 4 patients were incidentally diagnosed during cesarean section performed for other obstetrical conditions. 3 patients had unicornuate uterus, 2 patients were presented in shock, because of severe haemorrhage, laparotomy revealed ruptured ectopic pregnancy in accessory horn. One patient presented with history of recurrent dilatation and evacuation for missed abortion, examination revealed an adenexal mass and laparotomy confirmed haematometra in non-communicating horn which was then excised.

Uterus didelyphus was found in 3 patients, one patient was diagnosed during cesarean section performed for transverse lie; one patient presented with missed abortion and diagnosed with ultrasound, one patient presented with primary infertility, double uterus with double cervix was detected on hysterosalpingography.

Table No. 1:Congenital anomalies and their clinical presentation

Abnormalities	No. of Patients	Presentation
Mullerian agenesis with absent vagina	06	Primary amenorrhoea, infertility, postcoital bleeding
Transverse vaginal septum	06	Primary amenorrhoea
Longitudinal vaginal septum	03	Dyspareunia, difficult labour
Bicornuate uterus	09	Malpresentation, abortion, premature labour
Unicornuate uterus	03	Ectopic pregnancy
Imperforated hymen	10	Haematometra, haematocolpos
Uterus didelphys	03	Incidental diagnosis during laparotomy and hysterosalpingography
Arcuate uterus	05	Incidental diagnosis at LSCS
Second degree uterovaginal prolapse	03	Primary infertility, disturb marital relationship

Table No. 2:Reproductive performance of different types of uterine malformation

	Unicor-nuate	Bicor-nuate	Uterus didelphys	Arcuate
Total pregnancy	03	09	03	05
Early abortion	00	00	00	00
Late abortion	00	03	00	00
Ectopic pregnancy	03	00	00	00
Preterm delivery	00	02	00	00
Term delivery	00	00	00	04
Malpresentation	00	04	03	01

Congenital second degree uterovaginal prolapse was present in 3 patients. One patient was unmarried and ended up in vaginal hysterectomy, other 2 patients were married and both had disturbed marital relationship.

Associated renal tract anomalies were found in 3 patients, one patient had fused kidney (Horse shoe) found in the pelvis. In 2 patients, one kidney was absent.

DISCUSSION

The association of uterine anomalies with obstetrical complications has long been recognized, however a large proportion of the women with uterine malformation have no obstetrical problems. There are controversies regarding the surgical treatment in asymptomatic patients. In mullerian agenesis with absent vagina, vaginoplasty is only required when the prospectus of marriage and sexual activity are concerned.

Hossan Ara in her study also used to do the vaginoplasty and creation of neovagina when there is prospectus of marriage and sexual activity[7,8,9,10,11,12,13,14,15].

As we do not have the expertise for such a treatment, so these patients were referred to the special centres for reconstructive surgery.

Excision of the transverse vaginal septum was done with vaginal reconstruction. 2 of them have high vaginal septum with small atrophic cervix and they ultimately ended up in hysterectomy. Remaining 4 patients had successful surgery and were advised to have a regular vaginal dilatation to prevent the vaginal stenosis. One patient had a small hole in the septum and the septum was excised after the insertion of the Foley's catheter through that hole and inflated with 30 ml of water. The septum was excised on that balloon of the catheter. Postoperative dilatation was done for one week and patient was discharged with an advice to practice normal marital relationship.

Imperforated hymen with haematocolpos and haematomatra was quite common in young pubertal girl in our population. Hymentectomy with drainage of collected blood was a preferred treatment.

Ali A. et al in her studies shows the insertion of foley's catheter through the hymenal hole without damaging hymen structures as they consider that this new technique is less invasive and prevents many social problems by preventing destruction of the architecture of hymen and providing annular intact of hymenal ring[16].

Another study was performed at Agha Khan Hospital Karachi by Zafar Nazir et al, they used abdominal, perineal and abdominoperineal approach for reconstructive surgery of vagina in different age groups of the patients according to level of the septum[17]. Patients with urogenital sinus and cloacal malformations had stretch reconstruction[10,17].

Patients with bicornuate uterus, those who are diagnosed incidentally during cesarean section do not require any surgical correction. They advised to have antenatal checkup in next pregnancy and hospital delivery, those patients with recurrent abortion referred to special centres for further management.

Unicornuate uterus with rudimentary horn required the excision of accessory horn as a rupture of the rudimentary horn may occur in 90 % of the cases[11,12].

Arcuate uterus were diagnosed incidentally producing no symptoms and needed no treatment. Uterus didelphys as one patient has term pregnancy, so she required no treatment and 2 other patients, one patient had missed abortion and other patient had primary infertility as these problems could be because of other reasons not because of uterine anomaly. So, they were referred to special centres with proper counseling.

Second degree uterovaginal prolapse was found in 3 patients, one patient had Manchester repair with successful full term pregnancy afterwards, one patient had a sacrohysteropexy and one patient had a vaginal hysterectomy. They had the improvement of the symptom in the postoperative period but they did not come for long term follow up.

CONCLUSION

Uterine abnormalities are not uncommon, for defining their actual prevalence in population. It needs a well designed study including all the segments of reproductive age group women. Congenital anomalies of genital tract mostly hamper the sexual and fertility aspect of women, their early diagnosis and treatment may improve the fertility prospectus and also prevent the occurrence of various complications.

REFERENCES

1. Lawrence SA, Teresa PA. Mullerian duct anomalies. Emedicine. Updated Feb 16, 2009. website:http://emedicine.medscape.com/ article/ 273534-overview.
2. Ibrahim S, Hero KH. Uterus, mullerian duct abnormalities: Multimedia. Emedicin. Updated: Oct 16, 2009. website: http://emedicine.medscape. com/article/405335-media.
3. Troiano RN, McCarthy SM. Mullerian duct anomalies: Imaging and clinical issue. Radiology 2004; 233(1): 19 – 34.
4. Shulman LP. Mullerian duct anomalies. Clin Obstet Gynaecol 2008; 51(2): 214 – 22.
5. Nicholas JL, Bieber EJ, Gell JS. Case of sisters with complete androgen insensitivity syndrome and discordant mullerian remnants. Fertil Steril 2009; 91(3): 15 – 8.
6. Olpin JD, Heilbrun M. Imaging of mullerian duct anomalies. Clin Obstet Gynaecol 2009; 51(1): 40–56.

7. Ravel C, Lorenco D, Dessolle L, Mavdelbaum J, McElreave K, Darai E, et al. Mutational analysis of WNT gene family in women with Mayer-Rokitansky-Kuster-Hauser syndrome. Fertil Steril 2009; 91(4): Suppl 1604 – 7.
8. Shirota K, Fukuota M, Tsujioka H, Iuoue Y, Kwarabayashi T. A normal uterus communicating with a double cervix and vagina: A mullerian anomaly without any present classification. Fertil steril 2009; 91(3): 935 e1 – 3.
9. Soh E, Eleti A, Jimenez-Linen M. Arends MJ, Latimer J, Sala E. Magnetic resonance imaging findings of tamoxifen associated uterine mullerian adenosarcoma: A case report. Acta Radiol 2008; 49(7): 848 – 51.
10. Nahum GG. Uterine anomalies. How common are they and what is their distribution among subtype. J Reprod Med 1998; 43 (10): 877 – 87.
11. Strassman Eo. Operation for double uterus and endometrial atresia. Cin Obstet Gynaecol 1961; 4: 240.
12. Strassman EO. Fertility and unification of double uterus. Fertil Steril 1966; 17(2): 165 – 76.
13. Golan A, Langer R, Bukovskyl, Caspi E. Congenital anomalies of the mullerian system. Fertil Steril 1989; 51(5): 747 – 55.
14. Speroff L. The uterus. In: Mitchelll C; Clinical Gynaecologic Endocrinology and Infertility. 7th ed. Philadelphia Pa: Lippincott William and Wilkinson 2005;113.
15. Hosne Ara Baby. Congenital abnormalities of female genital tract. J of Bangladesh CPSP 2007; 25(1): 23 – 8.
16. Ali A, Cetin C, Nedim C, Kazim G, Cemalettin A. Treatment of imperforate hymen by application of Foley catheter. Eur J Obstet Gynecol Repord Biol 2003 10; 106(1): 72 – 5.
17. Nazir Z, Rizvi RM, Qureshi RN, Khan ZS, Khan Z. Congenital vaginal obstructions: varied presentation and outcome. Pediatr Surg Int 2006 22(9): 749 – 53.

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