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A STUDY OF GENITAL TRACT ANOMALIES AND REPRODUCTIVE OUTCOME

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ABSTRACT: Mullerian duct malformation delineate a group of congenital anomalies that result from arrested development or incomplete fusion of the mesonephric ducts. Uterine anomalies have been related to infertility, recurrent pregnancy loss, prematurity and other obstetric complications which results in raised perinatal mortality and morbidity. These malformations can also be asymptomatic with women having normal reproductive outcome. A suspicion of uterine anomaly should be borne in mind in obstetric complications like non progress of labour, malpresentations and retained placenta. Most of the vaginal abnormalities present with menstrual abnormalities and coital difficulties. The Purpose is to study the reproductive outcome in women with congenital anomalies of Genital tract.

KEYWORDS: Uterine anomalies, Preterm birth, Miscarriages, infertility, vaginal anomalies, menstrual abnormality.

INTRODUCTION: The Mullerian ducts differentiate to form the fallopian tubes, uterus, cervix and superior aspect of vagina. Malformations of the mullerian duct range from uterine and vaginal agenesis to duplication of uterus and vagina to minor uterine cavity abnormalities. These anomalies are related to poor reproductive outcomes and hence their diagnosis is important.

The prevalence of major uterine anomalies is estimated to be 5% in general population, 3% in infertile and 5-10% in case of recurrent miscarriages, some of the congenital uterine anomalies is asymptomatic and hence are unrecognised. Such anomalies are diagnosed either during antenatal checkup or during caesarean delivery.¹

Diagnoses of Genital tract anomalies are important as treatment is aimed at improvement of symptoms. These range from simple resection of uterine septum to vaginoplasty. The study aims to know the clinical characteristics of different anomalies of the reproductive tract and their reproductive outcome.

MATERIALS AND METHODS: A total of 45 patients with genital tract anomalies were studied in Obstetrics and Gynaecology department of Belagavi Institute of Medical Sciences from a period of August 2010 to July 2012. Number of uterine anomalies was 35 and vaginal anomalies were 10. Uterine anomalies were detected during labour and emergency LSCS. Vaginal anomalies were detected in OPD patients. Uterine anomalies presented with various reproductive outcomes ranging from infertility to labour complications and term deliveries. These women underwent detailed history regarding menstrual pattern, duration of infertility and previous obstetric outcomes. These women were either diagnosed earlier or were asymptomatic being diagnosed at surgery.

Vaginal anomalies presented with primary amenorrhoea and dyspareunia. Vaginal anomalies were diagnosed and managed.

Design: Prospective observational study.

ORIGINAL ARTICLE

Main outcome Measures: - Infertility, Miscarriages, Preterm delivery, Term delivery, Labour complications, Menstrual disturbances and Coital difficulties. In vaginal anomalies reproductive outcome not studied as compliance of patient was poor.

RESULTS: In our study (Among uterine anomalies).

Out of 35 cases 32 cases were diagnosed during emergency LSCS and 3 cases were delivered vaginally and had retained placenta. Bicornuate uterus was the commonest uterine anomaly with an incidence of 52.94%. We report a live birth rate of 88.88%, term deliveries rate of 66.66%, Pre term rate of 22.22%, Malpresentation rate of 55.55% & Retained placenta rate of 5.55% and an infertility rate of 11.11%.

Unicornuate uterus with non-communicating rudimentary horn was next common with an incidence of 29.41%. We report a 100% live birth with term delivery 85.71% and preterm delivery 14.28%. 85.71% presented with malpresentation. Unicornuate uterus with rupture of non-communicating horn had an incidence of 8.81% with live birth rate of 3.3% and miscarriage rate of 66.66%.

The incidence of unicornuate uterus with communicating horn was 5.88% with a live birth rate of 100% and 100% rate of non-progress of labour. The incidence of uterine didelphys was 11.76% with infertility rate of 50% and a miscarriage rate of 25% and 25% menstrual abnormality rate. Uterine anomalies presented with various reproductive outcomes ranging from infertility to term delivery and labour complications.

The results are tabulated in Table No. 1

Anomaly Incidence	(%)	Live Birth (%)	Term (%)	Preterm (%)	Mal-presentation	Failure to progress	Retained Placenta	Miscarriage Rate	Infertility	Menstrual Abnormalities	Ectopic Rates
Bicornuate uterus	52.94	88.88	66.66	22.22	55.55	----	5.55	----	11.11	----	66.66
Unicornuate uterus with non-communicating horn	29.41	100	85.71	14.78	85.71	----	----	----	----	----	
Unicornuate uterus with rupture of non-communicating horn	8.81	3.3	----	----	----	----	----	66.66	----	----	
Unicornuate uterus with communicating horn	5.88	100	----	----	----	100	----	----	----	----	
Uterine didelphys with unicornis	11.76	----	----	----	----	----	----	25	50	25	

Table No. 1: REPRODUCTIVE OUTCOME OF WOMEN WITH UTERINE ANOMALIES

Of the vaginal anomalies imperforate hymen was highest with an incidence of 36.36% and longitudinal vaginal septum was next common with an incidence of 18.18%. Of the reported vaginal anomaly some patients presented with menstrual abnormalities and others with dyspareunia. There were both menstrual and coital abnormalities in some patients.

The results are tabulated in Table No. 2.

ORIGINAL ARTICLE

Anomaly	Incidence	Coital Difficulties	Menstrual Abnormalities	Treatment
TRANSVERSE VAGINAL SEPTUM	9.09	YES	----	INCISION OF THE SEPTUM
LONGITUDANAL VAGINAL SEPTUM	18.18	YES	----	----
IMPERPORATE HYMEN	36.36	----	YES	SURGICAL EXCISION OF HYMEN
TOTAL ABSENCE OF VAGINA WITH HYPOPLASTIC UTERUS	9.09	YES	YES	CREATION NEOVAGINA AND SERIAL VAGINAL DILATATION
ATRESIA OF LOWER 1/3 RD OF VAGINA	9.09	----	YES	VAGINOPLASTY
VAGINAL ATRESIA WITH RUDIMENTORY UTERUS	9.09	----	YES	VAGINOPLASTY
IMPERPORATE HYMEN WITH LONGITUDANAL SEPTUM	9.09	----	YES	INCISION OF SEPTUM AND HYMEN ECTOMY

TABLE No. 2: VAGINAL ANOMALY DIAGNOSIS AND MANAGEMENT

DISCUSSION: Congenital uterine anomalies are always interesting as they are associated with different obstetrical and gynaecological problems. The prevalence of uterine anomaly varies widely between 0.1-3.5 percent.^[1] The prevalence is higher among women with fertility problems as compared to general population. Rega (1995) et al reported that the overall frequency of uterine malformation was 4.0 percent.^[2]

The Bicornuate uterus results when two normally differentiated ducts partially fuse in the region of the fundus. It was found to be associated with better live birth rate of 88.88% with a term delivery rate of 66.66% and preterm delivery rate of 22.22% these two results are comparable with studies of Rega et al^[2] and Fauzia butt^[3] 55.55% were associated with Malpresentations.

The unicornuate uterus results from normal differentiation of only one mullerian duct. Our study group of unicornuate uterus with non-communicating rudimentary horn had 100% live birth rate with a term delivery rate of 85.71% and preterm rate of 14.28% but it reported the highest rate of malpresentation (85.71%). But, the reproductive outcome worsened when it was associated with rupture of rudimentary horn of uterus. It was associated with an ectopic pregnancy rate of 66.66% and live birth rate of 33%. The ectopic was in rudimentary horn of the uterus. This agrees with the result of Munire. E. Akar et al^[4] and Fauzia butt^[3]. The live birth rate in Munire. E. Akar et al was 29.2% and ectopic pregnancy rate with Fauzia butt was 50%. We had a 5.88% incidence of unicornuate uterus with communicating horn and it was associated with 100% live term birth rate. But, all the cases presented as failure to progress and hence were taken up for caesarean section. It is to be noted that the obstetric outcome changes drastically with the character of the rudimentary horn i.e., rupture, communicating / non communicating. Uterine didelphys results from complete failure of the mullerian ducts to fuse in the midline. We report an incidence of 11.76% of this anomaly. We had a 50% infertility rate and 25% miscarriage rate which is comparable with the results of Fauzia butt [3]. Also 25% rate of menstrual abnormalities was noted in this group of anomaly.

ORIGINAL ARTICLE

Imperforate hymen had the highest incidence of 36.36% in our study group of vaginal anomalies. Imperforate hymen is likely the most frequent obstructive anomaly of the female genital tract but estimates of its frequency rate from 1 case per 1000 population to 1 in 10,000 population.^[5] They presented as primary amenorrhoea with or without haematometra and haematocolpos. Excision of the hymen followed by drainage of blood was done for such cases. Longitudinal Vaginal septum was next common (18.18%) and presented as dyspareunia. They were treated with incision of the septum. 9.09% presented with transverse vaginal septum with dyspareunia. They were treated with incision of septum. An incidence of 1 in 70,000 patients is reported in literature.^[6] 9.09% in the study group presented with primary amenorrhoea and total vaginal agenesis. Vaginal agenesis occurs in 1 of every 4000 to 10000 patients.^[7] Patient was treated by creation of neovagina along with serial vaginal dilatation. The patient did not develop vaginal stricture after surgery. There was atresia of the lower 1/3rd of vagina in 9.09% of the cases. They were treated with vaginoplasty.

In the study group of vaginal anomalies, 18.18% presented with menstrual abnormalities and 36.36% with dyspareunia. Although some presented with both the symptoms.

Limitations of the Study:

- 1) The results of the study are limited to a small group and hence it cannot be applied to a wide population group.
- 2) We had not used imaging modality to confirm the genital tract anomalies in all subjects. They were detected accidentally during labour or during surgery.
- 3) Outcome of pregnancy was not studied in vaginal anomalies as compliance of the patient was poor.

CONCLUSION: Congenital uterine anomalies are relatively frequent in infertile population. They are associated with higher incidence of miscarriages, preterm deliveries, malpresentations, non-progress of labour, 3rd stage complications of labour. But may be compatible with normal reproductive outcomes. The reproductive outcome with Bicornuate uterus is better compared with other anomalies. Presence of communicating rudimentary horn with or without rupture significantly affects the reproductive outcome. Malpresentation, failure to progress, 3rd stage complications of labour may point out to an underlying undetected uterine anomaly. Vaginal anomalies present with menstrual and sexual disturbances which can be corrected to permit a near normal reproductive outcome and sexual function.

ORIGINAL ARTICLE

Bicornuate uterus

Unicornuate Uterus

Vaginal Septum

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ORIGINAL ARTICLE

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