MANAGEMENT OF VAGINAL MALFORMATIONS AND ASSOCIATED MULLERIAN DUCT ANOMALIES

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SUMMARY

A series of 23 cases of vaginal malformations with or without associated mullerian duct anomalies in a period of one decade who underwent reconstructive surgery are presented. The difficulty in diagnosis, role of U.S.G.and F.N.A.are discussed and for successful results, stress is given on complete diagnosis for which, if required, Laparotomy with or without hysterotomy is recommended.

INTRODUCTION

The malformation of vagina is uncommon but it is a serious problem as its diagnosis results in depression and loss of self-esteem in the patient. The reconstruction of vagina is not difficult but the clinician is frequently frustrated for not being able to diagnose the associated malformations of mullerian duct while their recognition is essential for successful results.

Total 23 cases with malformations of vagina underwent reconstructive surgery in the Department of Obstetrics & Gynaecology, Maulana Azad Medical College and L.N.J.P.N. Hospital, New Delhi from 1978-1989. The problems of diagnosis and treatment are highlighted.

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MATERIAL AND METHOD

20 patients reported with amenorrhoea and 3 patients with infertility. Amonorrhoea was primary in 18 and secondary in 2. Other associated complaints in cases of amenorrhoea were cyclical abdominal pair (13), primary infertility (3), mass abdomen (2), retention of urine (1) and dysparunia (1).

The age of the patients varied from 14 to 25 years. 18 patients were unmarried and 5 were married. All the patients were phenotype females with normal secondary sex characters, external genitalia and normal sex chromatin.

Diagnostic Laparoscopy, U.S.G.and I.V.P.were carried out in all the patients. Fine needle aspiration was tried in all transverse vaginal septum and 1 longitudinal septum. Exploratory laparotomy was carried out in 7

shown in Table I.

Probably there was difficulty in reaching a correct diagnosis and treatment by surgeons in 3 cases which resulted in complications (Table II).

The urinary tract anomalies were diagnosed in 6 patients which included absent right kidney in 4, horse shoe shaped-1, duplication of right sided calyceal system and ureter in 1 case.

Treatment

Depending on the type of vaginal and associated malformations, the surgery was carried out as one or two staged procedure. One stage surgery was possible in 19 cases and two staged in 4.

The amnion graft on the mould (made up of methyl methacrylate material used for denture) was used for vaginoplasty after creating a space between bladder and rectum for 10-12 cms.long and 4-5 cms.broad in 8 cases of vaginal agenesis. Excision of transverse vaginal septum with mould insertion without graft was carried out in 9 patients while longitudinal septum was excised in 2.

In remaining 4 cases of vaginal agenesis with functioning uterus, the operative procedure was carried out in 2 stages. The vaginal space was created and in 2 cases cervix was approached P/v and mould was kept in place to drain hematometra, while in other 2 cases with cervical atresia the passage was created in the atretic cervix per abdomen and a self retaining catheter was kept in uterine cavity with mould in vagina for 3 months. During second stage surgery, amnion graft was used in 3 cases for vaginoplasty and skin graft for vagina and atretic cervix in one case.

Followup

All cases have been followed up. 2 cases of vaginoplasty for agenesis and 1 case of transverse vaginal septum needed repeat procedure for stenosis. One case of cervical atresia needed the procedure twice with amnion graft first time and skin graft lining the artificially created cervical canal second time. Both the cases of cervical atresia are menstruating regularly. One patient (cervix atretic in its lower half) has got married and conceived within 2 months of marriage. She is 2 months pregnant at the time of reporting.

DISCUSSION

The aim of surgery in cases of vaginal malformations is to create a functioning vagina, relief of cryptomenorrhoea and restoration of fertility in patients with functioning uterus.

Cases of primary or secondary amenorrhoea with vaginal malformations may have associated genital tract malformations. In this study, associated anomalies were present in 66.6% cases of vaginal agenesis and in 33.6% of vaginal septae cases. Persistence of symptoms after initial surgery needs further exploration.

U.S.G.is helpful in diagnosis with its limitations. Sailor (1979) has recommended U.S.G.in all cases of suspected genital tract anomalies with pelvic mass. In his series, U.S.G.was helpful in diagnosing absent uterus, hematometra, hematocolpos, bicornuate uterus but failed to diagnose cervical atresia. In this study U.S.G.was not helpful in diagnosing uterus didelphys, longitudinal septum in uterus and cervical atresia. Pre-operative diagnosis of cervical atresia is possible now with M.R.I.if available (Markhan et al 1987).

A fine needle aspiration through transverse septum in vagina if yields blood can confirm hematocolpos and the site where incision can be made but a negative F.N.A. may not rule out its presence. Allen (1963) has reported 2 cases of

TABLE I

Indications and observations at Laparotomy and Hysterotomy

No. of patients	Indications of laparotomy	Hysterotomy	Observations	Advantages achieved
2	1. V.V.F. repaired C Vaginal Atresia C Functioning uterus (V.V.F. produced at hymenectomy 6 months back elsewhere and was repaired by us).	+	Hematometra	– V.V.F. repair not disturbed – Hematometra drained – Cx could be easily approached Vaginoplasty done in second stage.
	2. V.V.F. repaired somewhere else, produced vaginal atresia	–	Hematometra Hydrosalpinx	– V.V.F. repair not disturbed – Cervix could be approached easily (Vaginoplasty done in second stage).
2.	Two cases with difficulty to approach Cx P/v	+	Hematometra	– Hematometra drained
	with vaginal atresia	+	Hematosalpinx	– Cx could be constructed
	with functioning uterus		Cervical atresia	(Vaginoplasty done in Second stage).
1	Rudimentary horn	–	Diagnosis confirmation	– Excision of horn (Excision of transverse septum same sitting).
2.	1. Pelvic mass with normal periods	+	Uterus didelphys with hematometra with hematocolpos ® side	– Diagnosis made – Excision of vaginal longitudinal septum and thus drained hematocolpos
	2. -do-	+	Longitudinal septum in uterus, cervix and upper 1/3 of vagina with transverse vaginal septum Chemato-colpos ⓛ side	– Diagnosis made – Excision of long and transverse septae possible, hematocolpos drained

TABLE II

Diagnostic errors and their sequelae

Diagnosis and treatment received before reporting		Final diagnosis after full investigations in our unit
1. Appendicular Lump	– Expl. laparotomy with ® salpingectomy	Vaginal atreasia with Cx atresia with functioning uterus
	– Referred.	
2. Imperforate hymen	– Hymenectomy, created Urethrovesico-vaginal fistula.	Vaginal atresia with functioning uterus.
	– Expl. laparotomy with hysterotomy to drain haematometra	
Abd. mass	– Referred.	
3. [Vaginal agenesis with functioning uterus diag. at laparotomy]	– Expl. laparoscopy by paediatric surgeon – Vaginoplasty – Persistence of sym. for 6 years. – Rpt. dilatation vagina – Pt. reported herself because of not getting cured.	Longitudinal septum in uterus, Cx and upper 1/3 of vagina joining a transverse vaginal septum. A hole had been made in transverse septum earlier on right side hemato colpos present.

TABLE III

Associated Mullerian Duct Anomalies

Abnormality in vagina	Total No. of patients	Absent or rud. horn	Cx atresia normal ut.	Unicornate uterus	Bicornate uterus	Ut. Didelphys	Long. septum in ut. Cx and vagina with transverse septum in vagina
Agenesis	12	6	2	–	–	–	–
Septum	11	–	–	1	1	1	1

sible now with M.R.I.if available (Markhan et al 1987).

A fine needle aspiration through transverse septum in vagina if yields blood can confirm hematocolpos and the site where incision can be made but a negative F.N.A. may not rule out its presence. Allen (1963) has reported 2 cases of uterus didelphys with imperforate vagina on right side in which he had difficulty in diagnosis but could settle it by putting a needle into the vaginal mass. But in a similar case in our study, only mucoid material was aspirated and diagnosis of uterus didelphys with imperforate vagina (R) side was made at Laparotomy.

Exploratory laparotomy with or without hysterotomy in congenital mullerian duct anomalies so far has not found favour among the gynaecologists. Allen and Cown (1963) performed laparotomy in 3 out of his 4 cases to confirm the diagnosis of uterus didelphys. But Gilliand and Duck (1976) have concluded that laparotomy in these cases reduces the incidence of successful pregnancy to 12%. Accordingly to our experience, exploratory laparotomy besides making a complete diagnosis, also helps in preventing injury to bladder or rectum while cervix is easily approached. With the use of antibiotics and IVF-ET, the potential benefits of laparotomy outweigh the inherent risks of it.

CONCLUSIONS

Complete diagnosis is essential in cases of genital tract abnormalities before attempting surgical treatment. U.S.G., fine needle aspiration and if required, laparotomy with or without hysterotomy should be included as included as investigating procedure.

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