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Original Research Article

Congenital vaginal obstruction in young girls: need for standard post-operative dilatation protocol

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ABSTRACT

Background: Congenital vaginal obstruction is a rare disorder in which there is blockage of the vaginal tract during the developmental stage and subsequently leading to accumulation of secretions and or menstrual blood. Surgical relief of obstruction is an effective treatment. Ensuring patency of the tract following surgery in young girls not sexually active can be challenging.
Methods: This is a 10-years retrospective analytical study of cases of congenital vaginal obstruction in young girls seen in two centres from February 2007 to January 2017. Data retrieved from the case notes included age at presentation, presenting features, prior intervention, diagnosis, surgery performed, vaginal dilatations, outcome, duration of follow-up. Data was subjected to simple statistical analysis.
Results: Eight patients met the inclusion criteria. The age range was 7 to 15years with a median of 12years. The cause of obstruction was transverse vaginal septum in 5 cases, imperforate hymen 2, vaginal hypoplasia 1. Three of the patients had no dilatation post operatively and of these, two came back with recurrent obstruction and hematometra. The third one was a case of imperforate hymen and did not develop stenosis despite not being dilated. There were no mortalities.
Conclusions: The occurrence of recurrent obstruction following surgical treatment of congenital vaginal obstruction is high. Post-operative dilatation reduces incidence of recurrence.

Keywords: Congenital, Dilatation, Obstruction, Recurrence, Vaginal

INTRODUCTION

Congenital vaginal obstructions (CVO) are rare malformations that block the vaginal tract causing accumulation of mucus, fluid and, or menstrual blood. Imperforate hymen is reported to be the commonest cause. Other recognized causes include transverse vaginal septum, vaginal atresia and vaginal hypoplasia. Some cases of vaginal obstruction manifest as early as the newborn period with abdominal mass and even urinary tract obstruction. A rare presentation in neonatal life with intestinal obstruction has also been reported. Others manifest in later life with cyclical abdominal pain due to haematometrocolpos, amenorhoea, pyosalpinx, urinary obstruction, tenesmus, and constipation. It is unclear yet the reason some manifest early as neonates or infants, and others later in peripubertal period. Whereas, the treatment for this condition in young girls is basically to surgically relieve obstruction and establish a vaginal tract, the follow up treatment to ensure patency of the tract in young girls presents peculiar challenges.

The literature search revealed mostly case reports of CVO but there is no standard protocol for prevention of neovaginal stenosis by way of dilatation. Few series on CVO were either of a mixed group of adults and children

or of adults who resumed sexual activities after the surgeries. None addressed the peculiar situation where this surgery was performed in young girls who did not become sexually active soon after due to young age. Author, therefore evaluated the benefit of post-operative vaginal dilatation to prevent the recurrence of vaginal obstruction in such young girls.

METHODS

This was a 10-years retrospective analytical study of consecutive cases of congenital vaginal obstruction in young girls seen in two tertiary health facilities in Southern region of Nigeria from February 2007 to January 2017.

Author defined young girls, in this study, as females within the age range of five to eighteen years. The inclusion criteria were diagnosis of CVO in a female within the age bracket of 5 to 18years whose medical records contained enough data for this study. Exclusion criteria were age less than 5 years or above 18 years, cases of persistent cloaca with associated vaginal atresia, acquired cases of vaginal obstruction, incomplete records, and loss to follow up. The case notes of consecutive cases of CVO seen in the two tertiary health facilities were retrieved and reviewed. Data sought for and retrieved from the case notes included age at presentation, presenting features, prior intervention, diagnostic investigations, vaginal dilatations if any, outcome, duration of follow-up. Data obtained was subjected to a simple descriptive analysis.

RESULTS

A total of 11 cases of congenital vaginal obstruction (CVO) in young girls were seen during the period under review. Three patients were excluded due to incomplete records and loss to follow-up. Eight patients met the inclusion criteria. The age range was 7 to 15years with a median of 12.5years. The cause of obstruction was transverse vaginal septum in 5 cases, imperforate hymen 2, vaginal hypoplasia 1. One patient had been operated on before but presented with recurrence, and 5 had no prior treatment. The most common presenting feature was abdominal pain followed by abdominal mass (Table 1).

Table 1: Clinical features of patients.

Clinical features	Patients (n=8)	%
Abdominal mass	5	62.5
Abdominal pain	8	100
Amenorrhoea	1	12.5
Bulgy hymen	2	25.0
Urinary retention	1	12.5

The surgeries performed in the patients were 3 vaginoplasties, 5 excision of fibromuscular septum and vaginoplasties and 2 hymenotomies. For the vaginoplasties and fibrous ring excision, the transperineal push-through technique with complete excision of the fibrous ring was used, whereas hymenotomy and hymenectomy was used for the imperforate hymen.

Post-operative dilatation was done in 7 cases. The Hegar's dilator was used starting with the smallest admissible size and graduating to Hegar size 16. Dilatation sessions comprised gentle repeated insertion of the lubricated dilator into the vaginal tract while patient was in a lithotomy position.

Three of the patients had no dilatation and 2 of them developed recurrence post operatively. The third one who did not develop recurrence despite not being dilated was a case of imperforate hymen (Table 2).

Table 2: Causes of vaginal obstruction, post-op dilatation and outcome.

Cause of obstruction	Cases	Dilatation sessions	No. of dilatation sessions	Outcome
Transverse vaginal septum	1	-	-	Recurrent obstruction in 8 months with haematocolpos
Imperforate hymen	1	-	-	No stenosis
Transverse vaginal septum	1	-	-	Recurrent obstruction with haematocolpos 3 months later
Transverse vaginal septum	1	1-2monthly over 1year	9	No stenosis
Vaginal hyposplasia	1	3-4monthly over 2years	7	Stenosis, patient defaulted
Transverse vaginal septum	1	Monthly. Last session required anaesthesia	3	Recurrent obstruction; parents defaulted
Imperforate hymen	1	Weekly for a month	4	No stenosis
Transverse vaginal septum	1	Weekly x 4, monthly x 2	6	No stenosis
Recurrent vaginal obstruction	1	Weekly x 4, monthly x 3	7	No stenosis
Recurrent vaginal obstruction	1	Weekly x 4, monthly x 3, 3 monthly x 1 year	11	No stenosis

Of the 10 surgeries performed in the 8 patients, recurrence of obstruction occurred in 4 cases (40%).

DISCUSSION

The incidence of only 11 cases in a period of ten years indicates that congenital vaginal obstruction (CVO) in young girls is an uncommon birth defect in our environment. This is in keeping with another report from Israel which also recognizes it as rare.[12] Nazir et al, working in Pakistan also encountered only 26 cases in 18years and this included adults and infants.[13] Though author had earlier reported a flare of similar obstructions in neonates within a span of two years, it was unclear why the patients in this present study only manifested in later life (peripubertal age).[3] These obstructions are preferably picked up and treated early to avoid the complications that manifest later with puberty.[14,15] The earlier report had more of imperforate hymen as the cause of obstruction and hydrometrocolpos in the neonates. This was not surprising as imperforate hymen has been recognized as the commonest congenital anomaly of the female genital tract.[16] On the contrary, transverse vaginal septum was predominant in this present study which involves much older patients.

Additionally, the predominant incidence of bladder outlet obstruction and upper urinary tract dilatation in the earlier report, is much less seen in the present one. Only one patient in the present study presented with bladder outlet obstruction.[3] The reasons for these differences seem to be cogent for further research. However, detailed clinical and imaging evaluation can properly delineate the pathology and explain these differences and give insight into the proper treatment options.[17-19] Abdominopelvic ultrasound scan was the imaging tool used in evaluating all in this case, CAT scan was deployed only in one case when it was affordable. Authors could not therefore confidently rule out the presence of some reported syndromes sometimes associated with CVO.[20,21]

The prominence of abdominal pain above amenorrhea as presenting feature was due to the fact that most of the patients were in the peripubertal age and had not had their menarche. It was therefore expected that author could not tag them amenorrhoeic. All the patients had what could have been considered successful surgery but for the challenges that appeared later. The incidence of recurrent vaginal obstruction in 40% of cases indicate that mere surgical relief of obstruction does not guaranty continued patency of the genital tract. There are also other reports of recurrence of obstruction following previous surgery in the literature. Most of these reports being case reports, highlight the rarity of CVO.[6,7]

Those reports made no mention of post-operative vaginal dilatation as part of the treatment. This may not be a problem when CVO is treated in older girls who may have become or will become sexually active soon. In this series where the average age was 12years, author had to add post op dilatation as part of the treatment of CVO having encountered recurrences in some earlier cases. This post-operative dilatation followed no specific protocol but recurrences became lessened in this series as author increased the number of post-operative dilatation sessions. Two patients who developed recurrent obstruction and stenosis respectively despite dilatation, were inconsistent with the dilatation sessions and parents defaulted at some point.

On the other hand, one patient with imperforate hymen, did not develop stenosis despite not being dilated. This would suggest that patients with CVO due to imperforate hymen may not need dilatation following hymenotomy. But other authors have reported recurrent obstruction following hymenotomy in this situation.[6,7]

In all, the morbidity, author encountered in these patients in terms of recurrence of obstruction and stenosis was unacceptable. On the other hand, the physical and psychological trauma of dilating the vagina of a young girl with dilator or examining finger is profound. In all, results in the present study suggest that post-operative vaginal dilatation following surgical relief of CVO should not only be an integral part of the treatment but should be standardized to ensure consistent results of treatment.

The small number of cases in this study was a limitation to any conclusion on the results. However, this study highlights the need for a more elaborate study to evaluate the need for a standard post-operative vaginal dilatation protocol in young girls who were treated for CVO.

CONCLUSION

Congenital vaginal obstruction in young girls is uncommon in our environment. Surgical relief of obstruction is imperative to resolve the pain that results from accumulating menstrual blood and to save the patient from damage of the genital tract and upper urinary tract. Recurrent obstruction and stenosis post operatively, indicate that successful management of these patients should go beyond the immediate surgical operations to developing standardized protocol of post-operative vaginal dilatation. This will prevent the morbidity of recurrent vaginal obstruction and stenosis in young girls who are not yet sexually active.

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