Congenital genital tract obstruction as a challenge for functioning reproductive health: a study from a tertiary care center in Nepal

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ABSTRACT

Aims: To find out the uterovaginal anomalies associated with congenital genital tract obstruction and successes achieved in its management.

Methods: This was a descriptive study done at department of Obs/Gyn at Tribhuvan University Teaching Hospital from April 2014 to April 2018. Types of genital tract obstruction, surgical treatment, success of management and surgical complications were studied.

Results: Of 35 cases 16 (46%) consisted of adolescents aged 11-15 yrs. Majority cases of GTO was due to vaginal septum 12(34%): longitudinal 4(33%), mostly transverse vaginal septum (TVS) 8(67%): upper TVS 4 and lower TVS 4,one among each associated with concurrent Imperforate hymen (IH). Other GTO consisted of only IH cases 9 (26%), vaginal agenesis 7 (21%), non- communicating rudimentary horn 4 , non-communicating right cornua 1and cervical stenosis 1(3%). Resection of septum performed in 12 cases of vaginal septum. hymenectomy in 8 and rudimentary horn excision in 4 cases. Restenosis was common complication in six cases.

Conclusions: Adolescent age of 11-15 years is the common age of presentation of genital tract anomaly with vaginal septum the most common. Pre-surgical assessment is the key to successful surgical outcome.

Keywords: adolescent, congenital, genital tract obstruction, resection

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INTRODUCTION

Hematocolpos (HC), hematometra (HM), hematometrocolpos (HMC), hematosalphinx (HS), subsequently hemoperitoneum (HP) and resultant endometriosis or infertility may occur secondary to retrograde menstruation from congenital genital tract obstruction (GTO) which consists of imperforate hymen (IH), vaginal /cervical atresia [fig 1], vaginal septum both longitudinal and transverse vaginal septum (TVS) in single or duplicated uterus, later less frequently associated with obstructed hemi vagina and ipsilateral renal agenesis (OHVIRA), Herlyn-Werner-Wunderlich (HHW) syndrome [fig 2 a/b].[1-8] Sometimes two or more type of GTO jointly in an individual such as IH and TVS, later with many more have resulted in complex surgery, follow up therapy and complications.[10-12]

METHODS

A retrospective descriptive study was undertaken of all cases of genital tract outlet obstruction managed at Department of OBGYN of Tribhuwan University teaching hospital, Kathmandu during a four year period from April 2014 – April 2018. Surgical record book and case files were studied. Types of anomaly, surgical procedures and surgical complications were important variables under study.

RESULTS

There were 34 cases of congenital genital tract obstruction; 16 (46%) were adolescents aged 11-15 years; and one case of IH with hydrocolpos in five month old infant [Figure-1 and 2].

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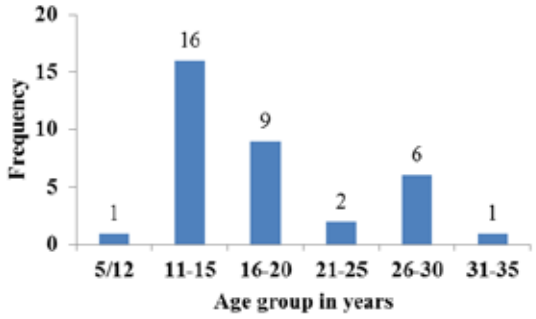

Figure-1: Age distribution (N=35)

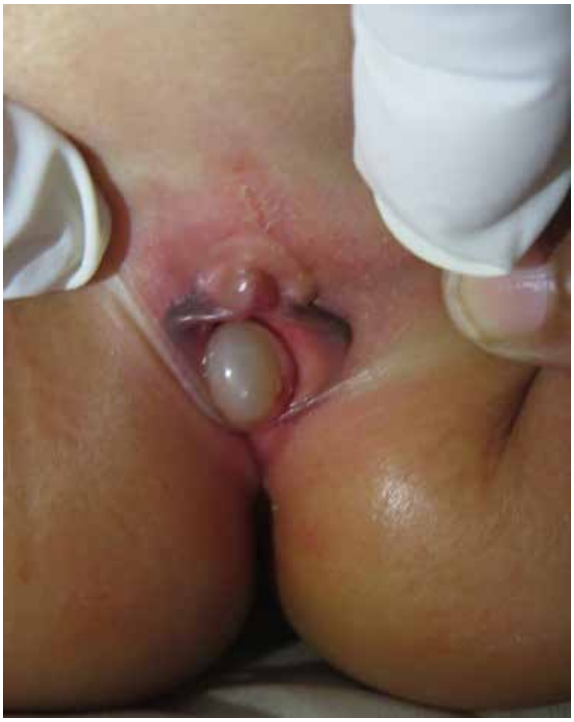

Figure-2: Hydrocolpos in a 5 month old infant

One-third (12) had vaginal septum mostly TVS (total 8, 4 high and 4 low) and one each had imperforate hymen. Longitudinal vaginal septum 4(33%) and two of them were associated with uterine didelphis and hemivaginaobstruction. Purely IH cases being 9 (26%)[Fig 3]. There were seven (21%) cases of vaginal agenesis associated with hypoplastic cervix 4, mullerian agenesis 2 and septate uterus 1. Other GTO consisted of non-communicating rudimentary horn 4 (12%) with hematometra 3 and rudimentary horn ectopic 1,one case of bicornuate uterus with non-communicating right cavity.There was one case of female pseudo hermaphrodite with unicornuate uterus hematometra with non-canalized cervix (Fig 4) and one case of cervical stenosis.[Table- 1]

Figure-3:Imperforate hymen

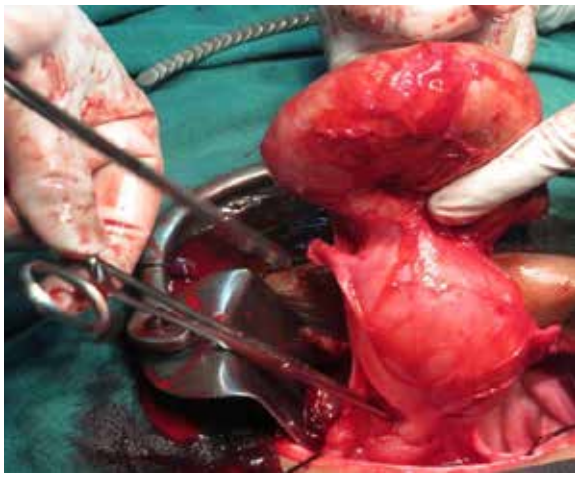

Figure-4: Unicornuate uterus with Hematometra with Hematosalphinx

Simple surgical measures, hymenotomy performed in 8 cases of isolated imperforate hymen.Resection of vaginal septum through perineal approach done in 12 cases. Laparotomy - 8 [rudimentary horn excision (4), cornual excision (1) combined with vaginoplasty (3); cervical catheterization in cervical stenosis (1)] and TAH with vaginoplasty (1) and TAH only done in (3) [Table-1].

Table-1: Types of congenital genital obstruction and procedures performed

Types				N	Procedure
Vaginal Septum - 12 (34%)	Transverse	High	TVS	3	Resection of septum (12) ± mold
			High TVS + Imperforated Hymen	1	
		Low	Low TVS	3	
			Low TVS + Imperforated Hymen	1	
	Longitudinal		Uterine didelphys + obstructed hemivagina	2	
			Other	2	
Imperforated Hymen -9(26%)	With hematometrocolpos			8	Hymenectomy & Drainage (8) Lost F/U
	With hydrocolpos			1	
Vaginal Agenesis-7 (20%)	With hypoplastic cervix			4	Laparotomy + canalization of cervix + vaginoplasty (2), TAH + Vaginoplasty (1), TAH (1)
	With mullerian agenesis			2	TAH (1) + Diagnostic laparoscopy (1)
	Septate uterus + endometrioma			1	Laparotomy + cystectomy + vaginopasty (1)
Unicornuate uterus Non-communicating rudimentary horn- 4 (11%)	With hematometra			3	Rudimentary horn excision (4)
	With ectopic pregnancy			1	
Bicornuate ut with non-communicating rt cavity -1				1	Rtcornual excision
Female pseudohermophrodite with Rthematosalphinx with unicornuate uterus with hematometra with non canalized cervix				1	TAH WIH RSO
Cervical stenosis with hematometra				1	Laparotomy with intrauterine and intracervical catheter placement

There were 10 surgical complications during resection of vaginal septum and vaginoplasty. Restenosis was the common one and two cases of Transverse vaginal septum with hematometrocoplos received ATT for genital Tuberculosis [Table-2].

Table-2: Complications in GTO management

Complications	Vaginal septum resection (n=12)	Vaginoplasty (n=4)
Restenosis	3	3
Re surgery	1	1
Anal injury	1	-
Rectovaginal fistula	-	1
Genital Tuberculosis	2	-

There were associated skeletal, renal and cardiac anomaly in four cases [Table-3].

Table-3: Associated other congenital anomalies (n=3)

Types of genital tract obstruction	Other associated anomaly
Imperforate Hymen with hydrocolpos	B/L hydroureteronephrosis
Imperforate Hymen+ Low Transverse vaginal septum	Monodactyly/ Polydactyly of both hands
Low Transverse vaginal septum	Polydactaly of both hands
Imperforate hymen+high transverse vaginal septum	Ventricular septal defect

DISCUSSION

Imporforate hymen seen from infant to adolescent is easiest to treat and often comes to notice when abdominal lump is noticed. It is a fact that referral

have been sent from Ob/Gyn to pediatric surgeon for lump in abdomen in children, which actually was due to HMC due to IH. This emphasizes routine practice of vaginal inspection whenever abdominal mass is the finding. Long standing IH has resulted in accumulation of massive blood collection up to 1.5L, 2L and 3L.[2-4]

ydrocolpos is rare finding in small babies and could be a part of other congenital anomalies including cardiac.[13] Our case, undetected at birth was related to gross ureteric dilatation. Sometimes hydromucocolpos is replaced by mucocolpos.[14] Transverse vaginal septum with syndactyly of the toes has been reported. [15] We had two cases of vaginal septum associated with digital anomalies of upper limb.

Lower TVS bears less struggle in opening but has threat of opening anal canal due to depressed introitus, too close urethra and narrow forchette. As even the lower TVS have been found to be admitted 3-4 times for strictures.[16-20]

Abdominoperineal approach have been tried for high TVS wherein lower posterior uterine incision is inflicted and passing dilator via cervix to locate TVS which is then opened vaginally.[12] Other tactic described is opening posterior vaginal opening and finding a way to TVS thus resecting from below.[21]

In one of our case presenting as suprapubic, unilateral HC with occurrence of IH and TVS [lower/upper] a tough challenge was met as surgery was pursued despite anal injury which occurred at the outset and months later developed stenosis. Attempt at resecting both TVS second time, almost seemed futile, had we not closely followed the pampered 14 year, who had already under gone remedial congenital heart surgery. A 24 size Foley catheter connected to urobag was kept for 6 weeks, weekly changing the set. A slender soft rubber eraser worn on a condom was kept for six weeks for maintenance of vaginal patency. Menstruation was suppressed, during this period by low dose OCP for three months. Strategy should be first to tackle lower TVS and once this is done, tackle upper TVS in next step at later convenient date, as the containing 120 ml blood in the small unilateral hematocolpos can be presumed to spontaneously regress or drained radiologically if symptomatic. [22]

Also rudimentary horn excision was found less cumbersome be it hematometra or a pregnancy in rudimentary horn.[22-24]

Two cases of transverse vaginal septum resection were positive for tuberculosis on tissue biopsy. One resumed normal menstruation and next one had introital stenosis requiring graft to widen it. The presence of hematometrocolpos/old blood could be the risk factor for genital TB.[25]

CONCLUSIONS

Common age group during presentation as genital tract obstruction was 11-15 years and the commonest anomaly was vaginal septum. Genital tract obstruction mandates a more rigorous pre-surgical workup to distinguish between simpler and more complicated cases.

REFERENCES

1. Nazir Z, Rizvi RM, Qureshi RN, Khan ZS, Khan Z. Congenital vaginal obstructions: varied presentation and outcome. Ped Surg Int. 2006;22(9):749.
2. Brito LG, Suto HS. Hematometrocolpos in a Teenager. New Eng J Med. 2018;378(8):e12. DOI: 10.1056/NEJMicm1711730
3. Ben Temime R, Najar I, Chachia A, Attia L, Makhlouf T, Koubaa A. Hymenal imperforation: About 13 cases. La Tunisie Medicale. 2010;88(03):168-71.
4. Mou JW, Tang PM, Chan KW, Tam YH, Lee KH. Imperforate hymen: cause of lower abdominal pain in teenage girls. Singapore Med J. 2009;50(11):e378-9.
5. Shaw LM, Jones WA, Brereton RJ. Imperforate hymen and vaginal atresia and their associated anomalies. J Royal Societ Med. 1983;76(7):560-6.
6. Rana A, Gurung G, Begum SH, Adhikari S, Neupane BB. Hysterectomy for hematometra in a 15-year-old mentally handicapped girl with congenital cervicovaginal agenesis and concomitant ovarian adenoma. J Obstet Gynaecol Res. 2008;34(1):105-7. doi: 10.1111/j.1447-0756.2007.00726.x.
7. Aveiro AC, Miranda V, Cabral AJ, Nunes S, Paulo F, Freitas C. Herlyn–Werner–Wunderlich syndrome: a rare cause of pelvic pain in adolescent girls. BMJ Case Reports. 2011:bcr0420114147.
8. Han B, Herndon CN, Rosen MP, Wang ZJ, Daldrup-Link H. Uterine didelphys associated with obstructed hemivagina and ipsilateral renal anomaly (OHVIRA) syndrome. Radiol Case Reports. 2010;5(1):327.
9. Rana A, Gurung G, Manandhar B, Ghimire RK. Simultaneous occurrence of hematometrocolpos and consecutive pregnancies in uterine didelphys: a case report. Nepal Med Coll J. 2008;10(2):136-8.

10. Jain N, Gupta A, Kumar R, Minj A. Complete imperforate tranverse vaginal septum with septate uterus: a rare anomaly. J Human Reprod Sc. 2013;6(1):74.

11. Tehrani HG, Hashemi L, Ghasemi M. Complete bicornuate uterus with complete transverse vaginal septum. J Res Med Sc. 2014;19(4):378.

12. Dilbaz B, Kiykac Altinbas S, Altinbas NK, Sengul O, Dilbaz S. Concomitant imperforate hymen and transverse vaginal septum complicated with pyocolpos and abdominovaginal fistula. Case Reports Obstet Gynecol. 2014: ID 406219. doi. org/10.1155/2014/406219

13. Wakabayashi A, Fujii H, Tokunaka S, Inada F, Takamura T, Yachiku S. A case of hydrometrocolpos with left renal agenesis. Acta Urologica Japonica. 1985;31(9):1635-41.

14. Rana A, Manandhar B, Amatya A, Baral J, Gurung G, Giri A, Giri K. Mucocolpos due to complete transverse septum in middle third of vagina in a 17–year–old girl. J Obstet Gynaeco Res. 2002;28(2):86-8.

15. Wang J, Ezzat W, Davidson M. Transverse vaginal septum. A case report. J Reprod Med. 1995;40(2):163.

16. Gupta P, Gupta S, Jindal S, Chopra K, Sinha M, Arora A. Cervical dysgenesis with transverse vaginal septum with imperforate hymen in an 11 year old girl presenting with acute abdomen. J Nep Med Assoc. 2013;52(189):281-4.

17. Jouda MA, Obaideen AM, Zayed M, Hamdy H. Transvaginal excision of transverse vaginal septum in children. J Clin Case Rep. 2013;3(302):2. http://dx.doi.org/10.4172/2165-7920.1000302

18. Gupta R, Bozzay JD, Williams DL, DePond RT, Gantt PA. Management of recurrent stricture formation after transverse vaginal septum excision. Case Reports Obstet Gynecol. 2015. doi.org/10.1155/2015/975463

19. Deligeoroglou E, Deliveliotou A, Makrakis E, Creatsas G. Concurrent imperforate hymen, transverse vaginal septum, and unicornuate uterus: a case report. J Ped Surg. 2007;42(8):1446-8.

20. Koyama–Sato M, Hashida O, Nakamura T, Hirahara F, Sakakibara H. Case of early postoperative adhesion in a patient with molimina due to transverse vaginal septum concomitant with imperforate hymen. J Obstet Gynaecol Res. 2015;41(7):1141-4. doi: 10.1111/jog.12669

21. Gezginc K, Yazıcı F, Karataylı R, Acar A. A new technique for the treatment of transverse vaginal septum by Foley catheter. J Ped Adolesc Gynecol. 2011;24(5):322-5. doi: 10.1016/j.jpag.2011.04.003

22. Lin, Chih-Yu, Chih-Ping Chen, Hung-Hung Lin, Shu-Chin Chien, and Chin-Yuan Hsu. "Acute Abdomen Caused by Hematometra and Hematosalpinx Four Months Following Right Oophorectomy in a Teenager with Right Peritubal Adhesions, Unicornuate Uterus and a Right Noncommunicating Rudimentary Horn. Taiwanese J Obstet Gynecol. 2007;46(4):456-9.

23. Wang Y, Yu F, Zeng LQ. Ectopic pregnancy in uncommon implantation sites: intramural pregnancy and rudimentary horn pregnancy. Case Reports Obstet Gynecol. 2015. dx.doi.org/10.1155/2015/536498

24. Zeqiri F, Paçarada M, Kongjeli N, Zeqiri V, Kongjeli G, Krasniqi B. Ruptured rudimentary horn pregnancy at sixteen weeks. J Turkish German Gynecol Assoc. 2010;11(3):165.

25. Eftekhar M, Pourmasumi S, Zadeh LM. Coexisting pelvic tuberculosis and endometriosis presenting in an infertile woman: Report of a rare case. Iranian J Reprod Med. 2014;12(6):439.