IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)
e-ISSN: 2279-0853, p-ISSN: 2279-0861.Volume 20, Issue 10 Ser.2 (October. 2021), PP 05-09
www.iosrjournals.org

Hypospadias in Teenagers and Young Adults

DrJohn Edoka Raphael,Dr Victor Abhulimen
Urology Division, Department of Surgery, University of Port Harcourt Teaching Hospital, Port Harcourt, Rivers State, Nigeria.
**Corresponding Author: Dr John Edoka Raphael*
**Email: drraphaeljohn@gmail.com*
Source of funding: None
Conflict of interest: None

Abstract
Introduction
Hypospadias defects are usually apparent at birth and are best repaired during childhood. This has well-documented benefits of mitigating the child's adverse emotional and psychological consequences. Adult patients with hypospadias fall into three categories: primary cases, previous failed repair, and multiple failed repairs. Tubularized Incised Plate Urethroplasty is one of the most typical methods used in urethroplasty with good outcome and acceptable complication rates.
Objectives
To highlight our experience in managing teenagers and young adults with primary hypospadias and had repaired by the Tubularized Incised Plate (TIP) Urethroplasty technique.
Materials and Methods
This was a 10year retrospective study on teenagers and young adults who presented with hypospadias and had primary repairs to the Urology Unit, University of Port Harcourt Teaching Hospital, Port Harcourt, Nigeria, from January 2011 to December 2019. Medical records of patients managed for hypospadias were reviewed. Data extracted from records included socio-demographic characteristics, clinical presentation, surgical treatment and complications. Data wereanalysed using SPSS Version 20.
Results
A total of 53 patients presented within the study period. Forty (40) patients had complete records which were retrieved. The age range was from 13 to 30years. The mean age was 17years.Distal penile hypospadias was the commonest {26 (60%)}; followed by mid penile hypospadias {10(25%)}; proximal penile hypospadias {5(12.5%)} and penoscrotal hypospadias {1(2.5%)}. 55% had been circumcised, and 27(68%) had no chordae. Poverty was the commonest reason for treatment delay 21(52.5%), while the psychological problem was often the reason for presentation for repair. All had TIP urethroplasty. Urethrocutaneous fistula was the commonest complication {3(7.5%)}.
Conclusion
The most common hypospadias in teenagers and adults in our study is distal hypospadias. Late presentation of patients with hypospadias can lead to psychological issues.
Keywords:*Hypospadias, Adults, Teenagers, TIP, urethroplasty*

Date of Submission: 25-09-2021 Date of Acceptance: 08-10-2021

I. Introduction

Hypospadias is derived from the Greek terms hypo (under) and spadon(rent,fissure).[1]Hypospadias refers to abnormal development of the urethra that displaces the urethral meatus from its usual site on the tip of the glans penis to anywhere along the ventrum of the penile shaft in the scrotum or the perineum.[2] It may also be associated with ventral deviation of the penis (chordee) and a ventral prepuce hood.[1]

Hypospadias is the second most common congenital disability, following cryptorchidism,[3]increasing incidence in Western countries.[4]The incidence of hypospadias is commoner in whites compared to blacks.[5] The incidence in the Western world is 1 in 250to 300.[5,6] Reported Incidence in Eastern Nigeria is 1.1%.[6]

A simple classification of this pathology depends on the location of the urethral meatus. Hypospadias is classified into distal, midshaft or proximal hypospadias. Distal hypospadias is most common. [5,7]

Over 300 surgical techniques and their modifications for hypospadias repair, yet repairing this condition sometimes pose a significant challenge for even an experienced hypospadiologist.[8] The multiple surgical options available for hypospadias repair are a testament that no single surgical procedure guarantees

universal success.Tubularized Incised Plate Urethroplasty is one of the most typical methods used in urethroplasty with good outcome and acceptable complication rates. [6]

Most hypospadias repair should be carried out between 6 to 18months. This has the dual advantage of improved emotional and psychological support.[5] Adult patients with hypospadias fall into three categories: primary cases, previous failed repair, and multiple failed repairs.[9] Repair using the standard technique can result in good outcomes and an acceptable complication rate. [10,11] This study highlights our experience with teenagers and young adults who have never had a repair.

II. Materials and Methods

This was a 10year retrospective study. All patients presented with hypospadias at the University of Port Harcourt Teaching Hospital, Port Harcourt, Nigeria, from January 2011 to December 2019. Medical records of patients managed for hypospadias were reviewed. Data extracted from records included socio-demographic characteristics, clinical presentation, surgical treatment and complications.Data were coded and entered using Microsoft Excel version 2010 and transferred into Statistical Package for Social Sciences (SPSS) version 20 (IBM SPSS Inc. Chicago, IL) for analysis. Categorical data were presented in frequencies and percentages using tables, graphs or pie charts. The continuous variable wasshown in Means, Medians and standard deviation.

III. Results

A total of 53 patients presented within the study period. The folder of three patients could not be found. Ten patients had a form of repair in early life and presented with complications, and were excluded from the study. Forty (40) patients had complete records which were retrieved. The age range was from 13 to 30years. The mean age was 17years. Distal penile hypospadias was the commonest {26 (60%)}; followed by mid penile hypospadias {10(25%)}; proximal penile hypospadias {5(12.5%)} and penoscrotal hypospadias {1(2.5%)}. 55% had been circumcised, and 27(68%) had no chordae. Poverty was the commonest reason for treatment delay 21(52.5%), while the psychological problem was often the reason for presentation for repair. All had TIP urethroplasty. Urethrocutaneous fistula was the commonest complication {3(7.5%)}.

Table 1. Age Range

Age range	**Frequency**	**Percentage (%)**
11-15years	16	40
16-20years	12	30
21-25years	8	20
Above 25years	4	10
Total	**40**	**100 per cent**

Table 2. Classification of hypospadias

Classification of hypospadias	**Frequency (n)**	**Percentage (%)**
Distal penile hypospadias	24	60
Mid penile hypospadias	10	25
Proximal penile hypospadias	5	12.5
Penoscrotal hypospadias	1	2.5
Total	**40**	**100 per cent**

Chart 1. State of Foreskin

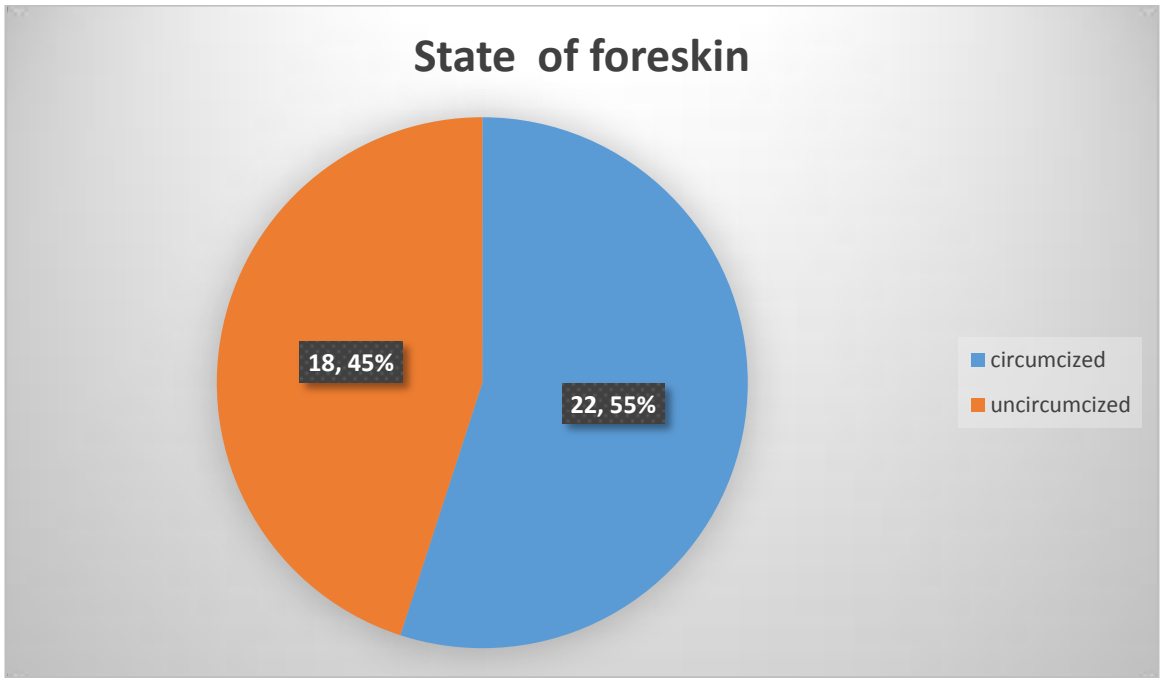

Chart 2. Presence of Chordee

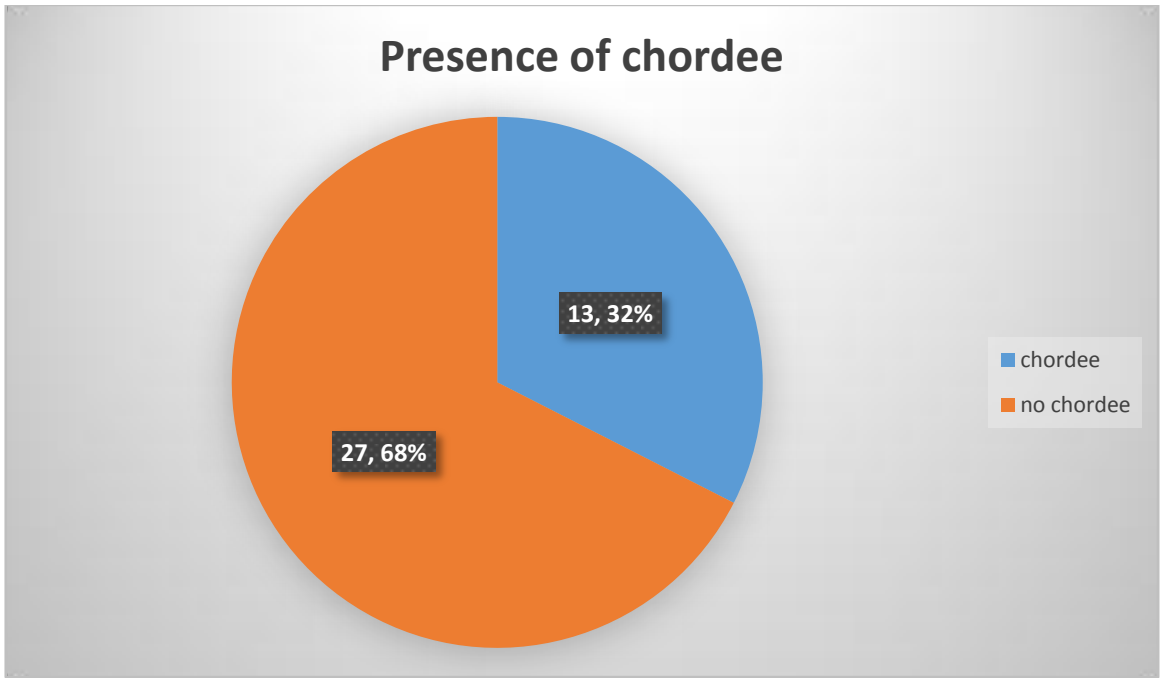

Table 3. Reason for delay in repair

Ignorance	8	20%
Poverty	21	52.50%
Fear of surgery	5	25%
The advice of a health worker	6	15%
Total	**40**	**100%**

Table 4. Presenting Complaints

Presenting complaints	Frequency	Percentage
Infertility	**2**	**5**
Lack of partner	6	15
Psychological problems	32	80
Total	**40**	**100**

Table 5. Postoperative Complications

Complication	Frequency (n)	Percentage (%)
Urethrocutaneous Fistula	3	7.5
Meatal stenosis	1	2.5
Tip necrosis	1	2.5
Total	**5**	**12.5**

IV. Discussion

The mean age of patients in this study is 17years. This is at variance with other studies with an earlier mean age. [7,12,13] Similar mean age was noticed by other authors. [14,15]This mean age is due to late presentation to the hospital. Earlier presentation and treatment are associated with fewer emotional and psychological problems. [1,5,13]

Distal penile hypospadias was the most common type in this study, as shown in Table 2. Many studies have noticed similar findings. [7,15] An author saw mid penile to be the most common.[13]

In the management of hypospadias, the aim is to achieve a penis that is straight, meatus of adequate calibre at the apex of the glans, conical glans and an acceptable appearance. [3,6] In achieving these aims, surgical principles must be strictly adhered to. These principles include good lighting, delicate instruments and sutures, atraumatic instruments, careful hemostasis, magnification,and exemplary surgical assistance.[3]

Some authors have reported the use of pre-operative androgens to cause increased penile growth before repair. [3,6] In this study, patients presented late with larger penile size compared to babies, so there was no need for the use of androgens before repair of hypospadias.

In surgical management of hypospadias, chordee, if present, is corrected to achieve a straight penis while preserving penile length and erectile function.Significant chordee can prevent sexual intercourse and result in painful erections.[6] In this study, 13 patients presented with chordee,which had to be corrected. Degloving the penis to the penoscrotal junction was enough to fix the chordee in 11 patients. Two patients needed dorsal plication. One of the two had penoscrotal hypospadias. Sometimes patients with severe chordee require ventral manoeuvres to correct the chordee.[16]No ventral procedure was necessary for chordee correction. Intraoperatively degree of chordee was assessed by injection of normal saline.

Several procedures have been described to repair the urethra. Tubularized Incised Plate (TIP), which involves incising the urethral plate to widen the urethra, is believed to be significantly faster and have a better functional and cosmetic outcome. [12,17,18]. In this study, the Snodgrass technique was used in every patient.

After creating the neourethra, covering the suture lines with a well-vascularized tissue flap helps prevent complications.[6] A transverse preputial flap transposed to the ventral aspect was used in 45% of patients. This could not be done for patients that were already circumcised. A tunica vaginalis flap was used for the patients that were already circumcised before hypospadias repair.

The most common reason for the late presentation was poverty which was noted in 52.50% of patients. In developing countries, patients pay for the surgery out of pocket. The minimum wage of the Nigerian worker is meagre, and some states are finding it difficult to bear.[19] This pay may not pay for the cost of hypospadias surgery. Twenty per cent of patients in the study did not know they had a problem. These patients had distal hypospadias.

Two patients with proximal hypospadias presented with infertility. These patients could not deposit semen into their partners' vaginas. Many of them had psychological issues and was very aware of their poorly developed penises.

The complication rate in this study was 12.5%; this is significantly lower than that reported by registering a complication rate as high as 52.3%.[14]Our opinion is that the late presentation helped reduce the complication rate as the patients are very cooperative, anaesthesia was not a problem as it would have been during infancy, and tissues were larger. The older patient was more cooperative with post-ops care and instruction. As noted by some authors, hypospadias repair seems more straightforward because the tissues to be handled are relatively more extensivecomparedto young children.[15]

V. Conclusion

The most common hypospadias in teenagers and adults in our study is distal hypospadias. Late presentation of patients with hypospadias can lead to sexual problems and psychological issues. However, hypospadias repair at this age may be associated with fewer complications. Health awareness can lead to early diagnosis and proper timing of treatment.

Conflict of interest
None

References

[1]. Raimund S. Hypospadias. European association of Urology 2012; ***11***: 33-45.
[2]. Heshmat SW. Path embryology of hypospadias and chordee. *MOJ Anat Physiol*. 2018; **5**: 6–10.
[3]. Keays MA, Dave S. Current hypospadias management: Diagnosis, surgical management,and long-term patient-centred outcomes.*Can Urol Assoc J* 2017; **11**:48-53.
[4]. Antonio MJ, AtilaR, Valdemar O. Hypospadias. *CurrOpinUrol* 2012, **22**:447–452.
[5]. Zhu XY, Feng DC, Hang T. Hypospadias in male infants – a review. *Eur. Rev.Med. Pharmacol. Sci* 2017, **21**: 1-3.
[6]. Djakovic N, Nyarangi-Dix J, O¨ zturk A, and Hohenfellner M. Hypospadias. *Adv Urol*2008, **10**:1155-1162.
[7]. Aisuodionoe-Shadrach OI, Atim T, Eniola BS, Ohemu AA. Hypospadias repair and outcome in Abuja, Nigeria: A 5-year single-centre experience. Afr J Paediatr Surg 2015, **12**:41- 44.
[8]. Marko M, Marta B, Dejan N, Borko S, Marko B, Ivana J et al. Psychosexual Functioning Outcome Testing after Hypospadias Repair. Healthcare 2020, **8**: 32; DOI: 10.3390/healthcare8010032.
[9]. Adam SH, Moneer KH. Management of 220 adolescents and young adults with complications of hypospadias repair during childhood. *Asian J Urol* 2017, 4: 14-17.
[10]. Thiry S, Saussez T, Dormeus S, Tombal B, Wese FX, Feyaerts A. Longterm functional, cosmetic and sexual outcomes of hypospadias correction performed in childhood. *Urol Int* 2015, **95**: 137-141.
[11]. Appeadu-Mensah W, Hesse JA, Sarpong PA. Complications of hypospadias surgery: Experience in a tertiary hospital of a developing country.*Afr J Paediatr Surg* 2015, **12**:211-216.
[12]. Shoeib MA. Snodgrass repair of hypospadias (10 years' experience of a modified technique). *Anaplastology*2015; **5:**2161-1173.
[13]. Mansoor K, Abdul M, Waqas H, Hidayat U, Shazia N, Syed AS et al. Hypospadias repair: A single centre experience. *Plast Surg Int* 2014 (Google Scholar).
[14]. Hensle TW, Tennenbaum SY, Reiley EA, Pollard J. Hypospadias repair in adults: adventures and misadventures. *J Urol* 2001; 165:77-79.
[15]. Ogundoyin OO, Olulana DI, Lawal TA, Ademola SA. Management of hypospadias in a resource-poor setting: The Ibadan experience. *Nigerian J Plast Surg* 2017; 13:40-44.
[16]. Moscardi PR, Gosalbez R, Castellan MA. Management of high-grade penile curvature associated with hypospadias in children. *Front Pediatr* 2017; **5**:189- 196.
[17]. Hamid R, Baba AA, Shera AH. Comparative study of Snodgrass and Mathieu's procedure for primary hypospadias repair.*ISRNUrology*2014; **2014**: 1-6.
[18]. Snodgrass WT. Snodgrass technique for hypospadias repair. BJU international. 2005; **95**:683-93.
[19]. Abada IM, Okafor NI, Omeh PH. New national minimum wage and states' viability in Nigeria's fragile economy.*IntlJrnl of Advanced Research in Soc Sci, Environmental Studies & Tech*2019, **2**: 2536-2542.

Dr.John Edoka Raphael, et. al. "Hypospadias in Teenagers and Young Adults." *IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)*, 20(10), 2021, pp. 05-09.