# **Original Research Article**

DOI: http://dx.doi.org/10.18203/2349-2902.isj20181835

# A study of clinical profile of hypospadias cases at a medical college hospital of South Gujarat, India

# Ajit Gohil<sup>1</sup>, Archana Nema<sup>2\*</sup>

<sup>1</sup>Department of Surgery, GMERS Medical College, Gotri, Vadodara, Gujarat, India,

Received: 12 April 2018 Accepted: 16 April 2018

### \*Correspondence: Dr. Archana Nema.

E-mail: archana.nema@yahoo.in

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

#### **ABSTRACT**

Background: Hypospadias is a common congenital anomaly in which the anterior urethra is incompletely developed and does not extend to the tip of the glans penis. The present study was aimed to study clinical profile of hypospadias cases at a medical college hospital of southern Gujarat.

Methods: This prospective study was conducted at a tertiary care hospital of South Gujarat, India including 32 patients of hypospadias. Data collected for each patient included age, sex, demography, and major symptoms, duration of symptoms and relevant past and treatment history.

Results: Out of 32, 9 (28%) patients are between 4 years to 6 years of age and mean age of presentation of patients of hypospadias is 7.55 years. Twenty seven (84%) patients of Hypospadias were associated with prepucial hood, 17 (53%) patients of Hypospadias were associated with meatal stenosis, 6 (19%) patients of hypospadiasis were associated with severe chordee and 2 (6%) patients associated with narrow urethral plates.

Conclusions: T Most cases of hypospadias were presented at age 9 years and below. Most common type of hypospadias was coronal and distal penile followed by penoscrotal type. Hypospadias was associated with prepucial hood (84%), meatal stenosis (53%), Chordee (19%) and narrow urethral plates (6%) out of total cases. Hypospadias was associated with undescended testis, bilateral retractile testis, cervical rib, mental retardation and microcephaly with mental retardation, squint and bifid tongue.

Keywords: Clinical profile, Coronal, Distal penile, Hypospadias, Penoscrotal

# INTRODUCTION

Hypospadias is a common congenital anomaly in which the anterior urethra is incompletely developed and does not extend to the tip of the glans penis. The abnormal urethra meatus may be located anywhere along the shaft to the perineum. The corpus spongiosum may be deficient or completely absent from the distal urethra. It occurs in 3.2 of 1000 live male births and can vary in severity from the glanular to the perineal position.<sup>1</sup>

Fortunately the most distal varieties are both the most common and the simplest to correct. The anatomic

findings vary in severity and are worst in cases in which the meatus is more proximally located. The hypospadias patients have an incomplete foreskin, called a dorsal hood because the foreskin is absent on the ventral surface of the penis. Frequently, the penis has ventral curvature called chordae due to fibrous tissue replacing the Buck's fascia which may vary in severity and location.2

Genetic, endocrine and environmental factors are important in the aetiology of hypospadias.<sup>3</sup> It is classified into anterior (glanular and subcoronal), mid penile (distal penile, midshaft, and proximal penile), and posterior (penoscrotal, scrotal, and perineal) hypospadias. The

<sup>&</sup>lt;sup>2</sup>Department of Surgery, SMIMER, Surat, Gujarat, India

incidence of anterior, mid penile and posterior hypospadias is 50%, 30% and 20% respectively.<sup>4</sup>

It is associated with other congenital anomalies such as undescended testis, inguinal hernia, intersex disorders and persistent Mullerian structures.<sup>5</sup> Chordee is associated in one fourth of the hypospadias cases. Chordee is classified into mild (10-20), moderate (30-40), and severe (>50) degree per-operatively by Horton test after degloving the penis. The choice of the procedure is based on the characteristics of the urethral plate irrespective of the meatal location.<sup>6</sup>

With this background, the present study was aimed to study clinical profile of hypospadias cases at a medical college hospital of southern Gujarat.

#### **METHODS**

All patients with age greater than 12 months who underwent Hypospadias repair in the surgery department of Surat Municipal Institute of Medical Education and Research, Surat from January 2011 to December 2013 were included in the study. Approval from Institutional ethical committee was taken before initiation of the study. Written informed consent was taken from the parents of the study participants.

Patients with hemoglobin less than 9 gm%, patients having any other associated anomaly which required treatment on a priority basis and patients with proven or suspected intersex state were excluded from the study. Basic clinical examination was done for all the participants.

Data collected for each patient included age, sex, demography, and major symptoms, duration of symptoms and relevant past and treatment history. All patients underwent routine investigations as per anesthesia fitness, hemoglobin levels, urine routine and microbiological examination, renal function test, X-ray chest and USG-abdomen for associated anomalies screening.

All the data was entered in Microsoft Excel software and descriptive statistics were analyzed.

# **RESULTS**

In the present study of 32 patients 9 (28%) patients are between 4 years to 6 years of age and mean age of presentation of patients of hypospadias is 7.55 years. Youngest one was 1 years of age and oldest was 25 years of age. (Table 1) In the present study of 32 patients of Hypospadias, 20 (62%) of patients.

In distal hypospadias type with meatus at coronal 9 (28%) of patients and at distal penile 9 (28%) of patients. (Table 2) In the present study of 32 patients, 27 (84%) patients of Hypospadias were associated with prepucial hood, 17 (53%) patients of Hypospadias were associated with meatal stenosis, 6 (19%) patients of hypospadiasis were associated with severe chordee and 2 (6%) patients associated with narrow urethral plates.

Table 1: Age distribution of study participants.

Age in years	No. of Patients	%
1 to 3	7	22
4 to 6	9	28
7 to 9	6	19
10 to 12	7	22
13 to 15	1	3
> 15	2	6
Total	32	100

Table 2: Type of Hypospadias among study participants.

Type of Hypospadias	Site of Urethral Opening	No. of Patients	%
Glanular	Glanular	1	3
Distal	Coronal	9	28
	Distal penile	9	28
	Midpenile	2	6
Proximal	Proximal penile	4	13
	Penoscrotal	7	22
	Perineal	0	0
Total		32	100

(Table 3) In the present study of 32 patients, 1 (3%) had associated undescended testis, 1 (3%) had associated B/L retractile testis, 1 (3%) had associated cervical rib, 1(3%) patient had mental retardation, and 1(3%) had microcephaly with MR, Squint, bifid tongue. (Table 4).

Table 3: Clinical findings among various type of Hypospadias.

Association	Glandular Hypospadias		Distal Hypospadias		Proximal Hypospadias		Total	
	No of patients	<b>%</b>	No of patients	%	No of patients	<b>%</b>	No of patients	%
Narrow urethral plate	0	0	0	0	2	17	2	6
Meatal stenosis	0	0	8	44	3	25	17	53
Severe Chordee	0	0	0	0	6	50	6	19
Prepucial hood	1	100	18	100	11	92	27	84
Total	1	100	18	100	12	100	32	100

Table 4: Anomalies associated with Hypospadias.

	Total	
Associated anomalies	No. of patients	%
Cervical Rib	1	3
B/L Retractile Testes	1	3
Microcephaly with MR, squint, bifid tongue	1	3
Mental Retardation	1	3
B/L Undescended Testis	1	3
B/L congenital Hernia	1	3
Post. Urethral Valve	1	3
Hypospadias without Anomaly	25	78
Total	32	100

# **DISCUSSION**

Hypospadias is one of the most common congenital defects affecting the external male genitalia. The incidence is around 1 in 250 male newborns, although its incidence seems to be increasing. Hypospadias is defined as an insufficient development of the urethral fold and the ventral foreskin, with or without penile curvature.

The urethral opening is located more proximally anywhere between the tip of the penis and the perineum. Hypospadias classification is based on the position of the meatus, within three categories: distal or anterior hypospadias with the meatus on the glans penis, at the corona, or subcoronal.

Mid-penile hypospadias with urethral opening located on the distal penile shaft, midshaft, or on the proximal penile shaft. Proximal or posterior hypospadias have a penoscrotal, scrotal, or perineal urethral meatus location. Distal hypospadias is the most common finding in the Western world. In Asia more, proximal forms are observed.<sup>9</sup>

Most commonly used classification of hypospadias relates to the location of the meatus however, the severity of hypospadias can't always be defined by original site of the meatus.

Severity of hypospadias should be classified according to the new location after correction of chordee. In the present study of 32 patients, 6 (19%) patients of hypospadias having meatus at midpenile region in both groups and as compare to study of Quetta10 where 49 (52%) patients of hypospadias having meatus at subcoronal/ distal penile region and 35 (37.4%) patients of hypospadias having meatus at midpenile/ proximal penile region. In the present study of 32 patients of hypospadias 44% patients were below 5 years of age and mean age of presentation is 7.56 years., as comparison

with a study of 94 patients of hypospadias at BMC Hospital Quetta, 61% patients were below 5 years of age with mean age of presentation is 6.7 years and as comparison with a study of 304 patients of hypospadias at Asopa hospital Agra, 62.5% patients were below 5 years of age. 10

This difference in late presentation for operative intervention is due to less awareness and seriousness for hypospadias in people coming from lower socioeconomic class mainly.

In the present study of 32 patients, 27 (84%) patients of Hypospadias were associated with prepucial hood, 17 (53%) patients of Hypospadias were associated with meatal stenosis, 6 (19%) patients of hypospadiasis were associated with severe chordee and 2 (6%) patients associated with narrow urethral plates.

#### **CONCLUSION**

Most cases of hypospadias were presented at age 9 years and below. Most common type of hypospadias was coronal and distal penile followed by penoscrotal type.

Hypospadias was associated with prepucial hood (84%), meatal stenosis (53%), Chordee (19%) and narrow urethral plates (6%) out of total cases. Hypospadias was associated with undescended testis, bilateral retractile testis, cervical rib, mental retardation and microcephaly with mental retardation, squint and bifid tongue.

Funding: No funding sources Conflict of interest: None declared

Ethical approval: The study was approved by the

Institutional Ethics Committee

#### **REFERENCES**

- 1. Duckett JW. Hypodadias. Campbell's text book of urology 7<sup>th</sup> ed. 1998:2093-119.
- 2. Devine CJ Jr & Horton CE. A one-stage hypospadias repair. Journal of Urology. 1961; 85:166-72.
- 3. Ságodi L, Kiss A, Kiss-Tóth E, Barkai L. Prevalence and possible causes of hypospadias Orv Hetil 2014;155:978-85.
- 4. Bhat A. General considerations in hypospadias surgery. Indian J Urol. 2008; 24:188-94.
- 5. Khuri FJ, Hardy BE Churchill BM. Urologic anomalies associated with hypospadias. Urol Clin N Am 1981;8:565-71.
- Kim SC, Kwon SK, Hong YP. Trends in the incidence of cryptorchidism and hypospadias of registry-based data in Korea: a comparison between industrialized areas of petrochemical estates and a non-industrialized area. Asian J Androl 2011; 13:715-8.

- 7. Hinman F Jr, Baskin LS. Hypospadias. In: Hinman's Atlas of Pediatric Urologic Surgery. 653–661, 2<sup>nd</sup> ed. Philadelphia: Saunders Elsevier; 2008
- 8. Kraft KH, Shukla AR, Canning DA. Hypospadias. Urol Clin North Am. 2010;37:167-81.
- 9. Baskin LS, Ebbers MB. Hypospadias: anatomy, etiology, and technique. J Pediatr Surg 2006;41:463-72.
- 10. Ahmed J. Tranverse preputial island flap for Hypospadias repair. J.surgery Pak. 2010;15:139-43.

Cite this article as: Gohil A, Nema A. A study of clinical profile of hypospadias cases at a medical college hospital of South Gujarat, India. Int Surg J 2018;5:2127-30.