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A STUDY OF THE CLINICAL PROFILE OF PATIENTS WITH HYPOSPADIAS AT A TERTIARY CARE CENTRE AT KANPUR, INDIA

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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 the clinical profile of hypospadias.

Settings and Design: This was a prospective, observational study.

Methods: This prospective study was conducted at Department of General Surgery, LLR & Associated Hospitals, GSVM Medical College, Kanpur, India, from January 2019 to October 2020, on 72 patients of hypospadias, after taking clearance from the Institutional Ethical Committee, and taking proper informed consent for participation. Data collected for each patient included age, sex, demography, symptoms with duration, and relevant past and treatment history.

Results: The most common age of presentation was between 1-5 years of age (48.61%, n=35). Distal hypospadias (DH) was the most common site. (47.22%, n=34). 4.16% (n=3) patients presented with urethrocutaneous fistula. Chordee was more commonly seen in patients with mid & proximal penile hypospadias (64.70%, n=33). In the present study, 4.1% (n=3) had associated undescended testis, 4.1% (n=3) had an associated bifid scrotum and 1.3% (n=1) had an associated congenital hernia.

Conclusions: Most cases of hypospadias present before 10 years of age. Distal hypospadias is the most common type. Chordee is associated most commonly with proximal penile and mid penile hypospadias. It may also be associated with other congenital anomalies like, undescended testis, bifid scrotum or congenital hernias.

KEYWORDS : Clinical profile, Hypospadias**INTRODUCTION**

Hypospadias is one of the most common congenital anomalies in male newborns with an incidence of 1:300.¹ Hypospadias is defined as an anomaly (hypo- or dysplasia) involving the ventral aspect of the penis.² These malformations mainly comprise of an abnormal ventral opening of the urethral meatus, (Fig. 4) .an abnormal ventral curvature of the penis (chordee) (Fig. 3), and an abnormal distribution of the foreskin (hooded prepuce). The extent of the malformation varies. Other abnormal finding include downward glans tilt, deviation of median penile raphe, penoscrotal transposition and bifid scrotum. Cryptorchidism & prostatic utricle may be associated in few patients of hypospadias Urethral opening (meatus) can be at the tip of the glans penis, glandular, coronal, subcoronal, along the penile shaft, penoscrotal, scrotal, or perineal.

Severe forms of hypospadias are typically accompanied by an abnormal ventral curvature of the penis (chordee) (Fig. 3).

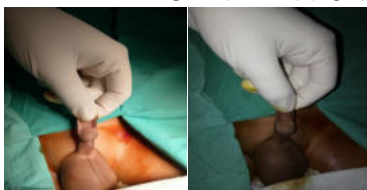


Figure 1

Figure 2



Figure 3

Figure 4

Further abnormalities in hypospadias concern the prepuce. Typically, there is a dorsal hump with excessive skin on the dorsal and a scarcity of foreskin on the ventral aspect of the penis. In the rare cases like megmeatus and chordee without hypospadias, the prepuce is normally developed. Prepuce must be preserved in all patient and circumcision is not done.

The optimal age for correction of hypospadias before going to school, as healing occurs more quickly with fewer scars & young children

overcome the fear of surgery more quickly. The operation can be done in one step in most of the patients. A two-step approach is sometimes necessary, for example, in case of insufficiency of the urethral plate or hypoplastic skin.

METHODS

The study was conducted in the Department of General Surgery, LLR & Associated Hospitals, GSVM Medical College, Kanpur from January 2019 to October 2020 on all patients of hypospadias.

The study was conducted after approval from Ethical committee of GSVM medical college, Kanpur. Written informed consent was obtained from each participant. The clinical details of the patients were recorded according to the Proforma and questionnaire form were prepared before the commencement of the study.

EXCLUSION CRITERIA-

Operated patients of hypospadias were excluded from the study.

At presentation, the site of meatus, presence and degree of chordee, urethral plate, glans size, glans groove was examined. USG KUB region was done to exclude associated urinary tract abnormalities.

RESULTS**Table 1: Age distribution of study participants:**

Age group	No. of patients	Percentage %
1-5 years	35	48.61%
6-10 years	18	25%
11-15 years	12	16.6%
>15 years	7	9.7%

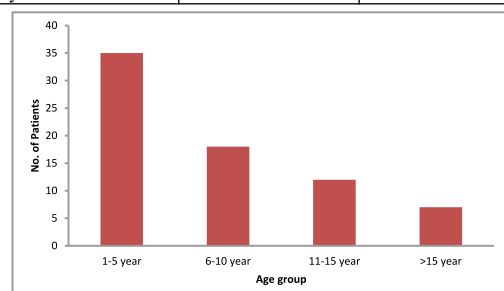


Table 2: Type of Hypospadias among study participants:

Type of hypospadias	Site of meatus	No of patient	Percentage%
DH 34 (47.22%)	Glanular	04	5.5%
	Coronal	23	31.94%
	Distal penile	06	8.33%
MH 21 (29.16%)	Mid penile	21	29.16%
PH 14 (19.44%)	Proximal	08	11.11%
	Penoscrotal	05	6.94%
	Perineal	01	1.3%
UCF 03(4.16%)		03	4.16%

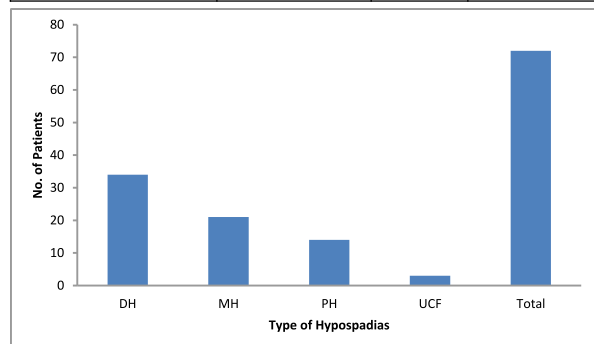


Table 3: Presence and degree of chordee among various type of Hypospadias:

Type of hypospadias	No chordee	Mild chordee	Moderate chordee	Severe chordee
DH	17	10	07	01
MH	0	02	17	01
PH	0	01	07	05

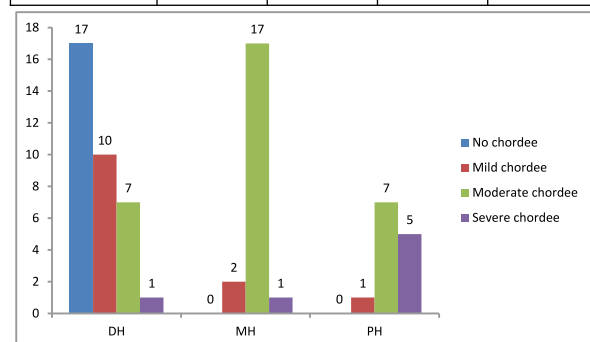
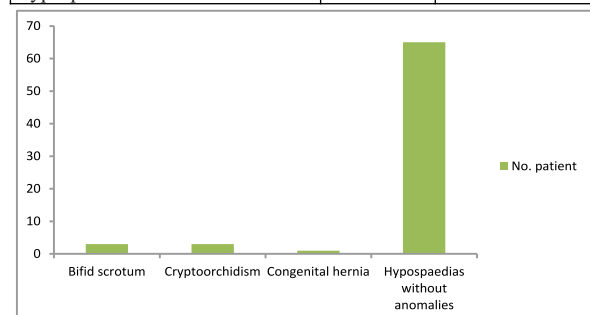


Table 4: Anomalies associated with Hypospadias:

Anomalies associated	No. patient	Percentage%
Bifid scrotum	03	4.1%
Cryptorchidism	03	4.1%
Congenital hernia	01	1.3%
Hypospadias without anomalies	65	90.27%



DISCUSSION

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.

In the present study of 72 patients of hypospadias, 48.61% patients were below 5 years of age, and mean age of presentation is 7.8±5.7 years. (Table no. 1)

In a study by **Daulat Khan et. Al (2008)** at Bolan Medical College, Sandeman Provincial Hospital, Quetta, total of twenty six patients were operated in one year period. The age of the patients ranged from 12 months to thirteen years. Associated anomalies found in four cases and included one case each of inguinal hernia and scrotal hydrocele and two cases of undescended testis. 61% patients were below 5 years of age, with mean age of presentation was 6.7 years.

Asopa et. al (1998), in a study of 304 patients of hypospadias at Asopa hospital Agra, 62.5% patients were below 5 years of age. (12,13,14) 9.7% patients presented very late, that is, after 15 year of age that may be due to less awareness in people coming from lower socio-economic class mainly

Type of hypospadias should be classified according to the new location of meatus after correction of chordee. In the present study of 72 patients, 34 (47.22%) (Table no 2) patients of hypospadias had meatus at distal penile region and 21 (29.61%) in mid penile and 14 (19.44%) in proximal penile region.

In the study by **Daulat Khan et al. (2008)**, 49 (52%) patients of hypospadias had meatus at subcoronal/distal penile region, and 35 (37.4%) patients of hypospadias having meatus at mid-penile/proximal penile region.

Duckett JW et al. (1989) proposed the most commonly used classification; i.e., nearly 70% of hypospadias are either glanular or distally located on the penis and are considered a mild form, whereas the remainder is more severe and complex. (15)

In the present study of 72 patients, 7 (9.7%) (Table no 3) patients of hypospadias were associated with severe chordee.

Simmi K. Ratan et. al (2014) (16) stated that no subject with proximal (Gp A) hypospadias had minimal chordee; whereas, severe chordee was present in 28% of mid-penile (Gp B) and 19% of those with distal (Gp C) hypospadias. This difference was found to be statistically significant.

CONCLUSION

Most cases of hypospadias present before 10 years of age. Distal hypospadias is the most common type. Chordee is associated most commonly with proximal penile and mid penile hypospadias. It may also be associated with other congenital anomalies like, undescended testis, bifid scrotum or congenital hernias.

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