

# MANAGEMENT OF HYPOSPADIAS IN CHILDREN

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## ABSTRACT

*Objective* To find out result of hypospadias repair following Mathieu's technique.

*Study design* Descriptive study.

*Place & Duration of study* Department of Paediatric Surgery, Unit II, Bolan Medical College, Sandeman Provincial Hospital Quetta, from March 2007 to February 2008.

*Patients and Methods* All patients attending outpatient department of our unit were included. The upper limit of age was kept at 13 years. Patients with distal penile hypospadias without or minimal chordee were included. Glandular variety and those having moderate and severe chordee were excluded. Polyglycolic 5/0 sutures were used for repair and urethral catheter of appropriate size was kept as stent for 10 days. Simple occlusive dressing was applied in all cases.

*Results* A 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. General complications like swelling and hematoma of operative sites were not given much importance as they settled over period of time. Urethrocutaneous fistula occurred in five cases. None of the patients developed sloughing of flaps and meatal stenosis.

*Conclusions* Mathieu technique of hypospadias repair is an effective method of repairing distal penile hypospadias. Urethrocutaneous fistula rate though high but was comparable with reported literature.

*Key words* Hypospadias, Mathieu repair, Complications.

## INTRODUCTION:

Hypospadias is one of the commonest penile anomalies in children.<sup>1</sup> It remained the topic of discussion as various techniques evolved over centuries to deal with this anomaly.<sup>2</sup> The location of external urinary meatus varies from just proximal to tip of glans to perineum. The more proximal the urinary opening the more severe is the chordee and small size of penis. The incidence of associated anomalies also

increases as the location becomes more proximal.<sup>3</sup>

The techniques of repairing hypospadias kept evolving over period of time as none gave satisfactory results. The procedures did not work equally in the hands of various surgeons. However the technique described by Snodgrass (tubularized incised plate -TIP) urethroplasty became widely accepted in recent times.<sup>4,5</sup> Many surgeons prefer this single stage technique of repair as it is versatile and easy to learn. However, Braka's two stage procedure is recommended for more proximal type of anomaly.<sup>6</sup> Recently a term Snodgraft is applied, in which both the principles are combined.<sup>7</sup>

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in USA it occurs, approximately 1 in every 500 male births. The incidence of hypospadias varies in different countries:

Overall,<sup>11</sup> boys in 30% of the population are the most common. The location is anterior in 20% of cases, midline in 50%, and behind, and posterior (behind, behind, and behind), and anterior), midline (distal, midline, and proximal associated chordae).<sup>10</sup> The location includes anterior (distal, distal, distal) describes the location of the meatus after correction of any that biobased by Bartsch and modified by Duckett. This refers to meatus. The most common type of classification is classification of anomaly is based upon the position of external development of meatus between 8-50 weeks gestation. The hypospadias is a congenital defect that is occurring during the

**DISCUSSION:**

oriented. No straddling of flaps or distortion occurred. was not as convex as expected and meatus was not vertically level of age. No meatal stenosis found. The shape of glans complications occurred in patients who were less than five prepubertal years occurred in five cases. All

in all patients as expected. Amblyopia as they get over time and occurred and mild hematomas of operative sites were not given much on 2<sup>nd</sup> post operative day. General complications like swelling, bruising, and infection in this series. Dressing was removed two cases of undescended testis. No urethral injury related one case each of inguinal hernia and scrotal hydrocele and associated anomalies were found in four cases and included urethra. Fourteen patients were less than five years of age. The age of the patients ranged from 15 months to thirteen. A total of twenty six patients were operated in one year period.

**RESULTS :**

after one week of discharge and then at monthly intervals continued till the stent remained. Follow up was done in OPD operative dressing was applied in all cases. Antiprotic antibiotic size was kept as stent for 10 days. Double stents were used for repair and urethral catheter of more than minimal chordae were excised. Polydiploic 20 chordae were included. Glans and urethra and those having at 13 years. Patients with distal penile hypospadias without straddle penile were included. The upper limit of age was kept surgical unit II of Boston Medical College during the. All patients attending outpatient department of paediatric

**PATIENTS AND METHODS:**

hypospadias in children. Our experience of this approach in management of congenital and recommended its use. In this study we describe our findings. Those who have been using this approach are surgical principles behind these techniques are quite recommended for more distal variety of the lesion.<sup>8</sup> The time tested technique of Mathieu is still practiced and

and also makes surgical site prone to infection. We usually skin stoma not occur as if combined with of skin flaps with a compressive dressing. Hematoma formation below postoperative bleeding rarely occurs and is usually controlled. Difference is reported in what level of dressing is done.<sup>18</sup> Some early and does not make site skin. But no significant straddling after use of dressing that straddle penile distal flaps dressing after remaining urethral stent, as penile tissue are lax and elastic. We recommend a corded dressing is liable to occur. Edema occurs quickly. This is because of the nature of the dressing and it provides are not operative penile. The usually cause no significant problem. Local edema and swelling of blood are expected in early post

operative.<sup>13</sup> Overall complication rate in their series was only reported by Berk et al in a series of 50 patients with Mathieu's straddle (5 patients out of 50).<sup>10</sup> Even better results are reported in other penile straddle. They have reported only 5% overall complication rate which was resolved either from pressure or a modification where they have used a second layer to cover sites ranged from 0% - 32%.<sup>12</sup> Mermod et al described to decrease the rate of straddle formation which in various with this procedure. Many modifications have been described subsequent surgical reported varied degrees of success. The Mathieu repair was first reported in detail in 1935. Many

in other children in comparison with those operated early. In continuity of spore operations. We find better results straddle, in early part of the patients.<sup>14</sup> Our experience is not is associated with complications, bilaminar urethral reconstruction hypospadias repair in the prepubertal and postpubertal period shown to improve emotional and psychological result. Late and gender identity confusion. Earlier surgical has been psychological morbidity, including abnormal behavior, grief, surgical in other children can be associated with significant surgical better to do it in infancy. It is believed that genital back if was usually done in toddler age group but now usually. The timing of surgical has shown a great shift. Few decades

patient to void while standing.<sup>13</sup> be suitable for future sexual intercourse and enables the acceptable penile skin coverage. The resulting penis stoma (glans-based). The final aim is to achieve cosmetically is made more natural by creating convex contour with its meatus at the tip of the glans (urethral-based), which penis by connecting any chordae (urethral-based), to bring urethra. The objective of hypospadias repair are to create a straight

family, the family rate of hypospadias is about 3%,<sup>15</sup> than in black. A genetic component may be present in certain Hindu. The incidence of hypospadias is greater in whites in Mexico and Scandinavia and 5% per 1000 live births in India but seems rather constant at 0.5% per 1000 live births in several countries, the incidence of hypospadias may be and small for gestational age and those with low birth weight. 1970-1993. A link has been reported in poly poly hematuria in the United States, the rate of hypospadias doubled from

remove the dressing on 5<sup>th</sup> day and leave the area open. It helps in identifying and infection and devitalization of skin flaps.

Urethrocutaneous fistula is a major complication after hypospadias repair. The rate of fistula formation generally is less than 10% for most single-stage repairs but rises with the severity of hypospadias, approaching 40% with complex reoperative efforts.<sup>19</sup> Fistulas rarely close spontaneously and are repaired using a multilayered closure with local skin flaps 6 months after the initial repair. After repair fistulas may recur in approximately 10% of patients. In our study fistula occurred in five patients. Most of the patients were less than 3 years of age. Meatal stenosis does not occur with this technique as final urethra is quite wide although not vertically oriented.

Long term complications include urethral strictures. So far none of our patients developed this. Another long term complication is urethral diverticula and which is not uncommonly associated with stricture. So a long term follow up is must while reporting the final outcome. Diverticula are generally associated with graft or flap-type hypospadias repairs, which lack the subcutaneous and muscular support of native urethral tissue. The redundant urethral tissue is generally excised, and the urethra is tapered to an appropriate caliber.

Many surgeons in recent times have switched over to Snodgrass technique of TIP urethroplasty. Favorable results have been documented. However we believe experimenting between various techniques is not appropriate. One should master a technique and then excel in it. In one study various techniques have been used and reported complication rate was 26%.<sup>19</sup> It is thus suggested that a sound protocol should be adhered to, when managing patients with hypospadias. A long term follow up is also important as one should find out psychological adjustments and quality of life in these patients. This aspect is often neglected.<sup>20</sup>

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