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DUPLICATION OF THE URETHRA : A CASE REPORT

General Surgery

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ABSTRACT

Duplication of urethra is a rare condition, only 200 cases has been reported till now. Condition is more common in men and boys. Many theories have been proposed but still the actual mechanism and the treatment of the disease is not clear. This article highlights the case of one-year old boy having urethral duplication. It belongs to the type 2A-I of Effman classification(1,4). Two separate urethras originating from the bladder, one is penile urethra which was hypoplastic and the other opened near the anal opening whose caliber was broad and thick. Surgical intervention was done.

KEYWORDS

urethra, duplication, abnormality

INTRODUCTION:

Duplication of urethra is a rare condition, only 200 cases have been reported till now. Condition is more common in men and boys(2). Many theories have been proposed but still the actual mechanism and the treatment of the disease is not clear. Urethral duplications occur in many varieties. Effman and colleagues gave the classification in 1976 by excluding the embryogenesis and just by focusing the anatomic variants in terms of radiological evidence. Classifying the duplication of urethra in two main broad types which was saggital (one over the other) and collateral (side by side)(3,5). Most duplication occur with one urethra on top of the other (saggital type). The more common situation of one urethra on top of another occurs in dorsal and ventral varieties. In doral variety, normal urethra follows the normal path and opens at the tip of penis whereas the other opening is anywhere between the tip and the base. In this the latter part may ends as a blind pouch anywhere along its course. Urinary incontinence is the issue over here. In ventral variety, two separate urethras come from the bladder in most of the condition. The main urethra, its opening is present at the undersurface of penis and away from the anterior rim of anus. It has normal sphincter mechanism. While the normally placed penile urethra is hypoplastic, inelastic, narrow and functions poorly. In such cases, patients suffer ejaculation from anal urethra causing trouble in adulthood. Here we have reported a case of complete uretheral duplication and surgical intervention was done for the same.

CASE REPORT: A one year old premature boy was admitted under pediatric surgery department in dhiraj general hospital with mother complaining that her son was passing urine from two different sites. Examination revealed that one was from penile urethra through which the flow was weak and the other opened at the anal opening having normal thick flow. Both had normal sphincter mechanism and baby was passing urine from both the sites simultaneously. He had no other anomalies. Penis and scrotum was developed properly according to the age. Renal Ultrasonography was normal. Retrograde uretherogram (AUG) and micturating cysto-uretherogram (MCUG) was done. Two separate urethras orijinating from the bladder which is type 2A-I of Effman classification was found. Penile urethra showed narrow passage while the diameter of the other urethra was normal.

After getting pre-anesthetic fitness, two staged operation was planned at the interval of 6 weeks.

In stage I, perineal uretherostomy of the anal urethra was done followed by excision of dorsal hypoplastic penile urethra. Anal urethra was carefully separated from the anus and rectum and perineal uretherostomy was made of it acquiring the sufficient length by dissecting it till the bladder neck. Excision of penile urethra was done by stripping, midline longitudinal incision over the penis is made to dissect the proximal accessory urethra and through supra-pubic approach accessory urethra was ligated just distal the bladder neck. Supra-pubic catheter was there for 10 days and removed thereafter without any complications. Calibration of perineal uretherostomy was advised daily.

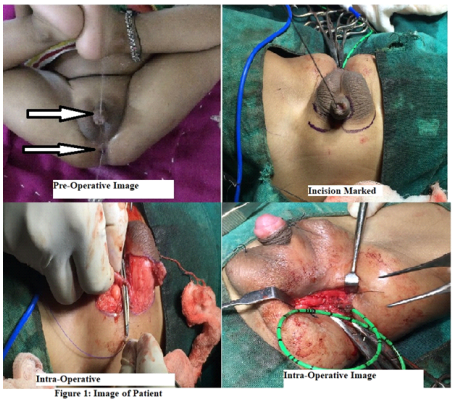

Figure 1: Image of Patient

In stage II, uretheroplasty was done after 6 weeks and normal passage of penile urethra was created, closing the perineal uretherostomy. On discharge by 10th post-op day calibration was advised. Regular follow-up was done and there was good cosmetic result with no post-surgical complications. The mother reported that her son was passing urine with a thick straight stream with no evidence of fistula.

DISCUSSION: Duplication of the lower urinary tract is a very rare congential anomaly which is diagnosed either at birth or during early childhood. Duplication of lower urinary tract refers to duplication of urinary bladder and/or the urethra. Abrahamson was the first to classify duplication of bladder with urethra. Several attempts to classify double urethra have been considered unsatisfactory until Effman in 1976 presented the classification based on the radiological evidence and excluding various theories of embryogenesis. They classified as:

Type 1: blind ending channels or incomplete duplication-
1A: blind ending channel opening is either ventral or dorsal in the midline of the penis without communicating with bladder or urethra.
1B: blind ending channel orijinating from the urethra.

Type 2: patent and complete duplication-
2A: two urethral meati
2A-I: two urethrae orijinate separately from the bladder
2A-II: the accessory urethra divides from the main urethra and maintains the separate course.

2A-III: the ventral urethra opens in the perineum(y-type)
2B: two urethrae unite and form a single channel before opening at the skin

Type3: urethral duplication with caudal duplication.

In this case report, type 2A-I duplication has been encountered. Later, duplication has been broadly classified into two main types based on the treatment required, saggital (one above the other) and collateral

symptoms of incontinence, UTI due to reflux. Surgeries have been done for its definitive cure, cosmetic purposes and to avoid the problem of ejaculation, sexual displeasure in adulthood(6,7,8).But its treatment varies with its anatomy and symptoms.

CONCLUSION:

Treatment of the urethral duplication has been individualized based on the anatomic variant, severity of symptoms and anomaly. Surgical intervention is mostly needed in all.

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