Anterior urethral valves associated with hypospadias

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ABSTRACT

An association of coronal hypospadias with meatal stenosis and anterior urethral valves is described in this report. A combination of double obstruction in anterior urethra may overshadow the expression of proximal one.

KEY WORDS: Anterior urethral valves, hypospadias, urethral diverticulum

INTRODUCTION

Obstructing lesions of the anterior urethra in infancy and childhood are uncommon. Anterior urethral valves (AUV), diverticula and congenital urethral strictures occur rarely.\[1-3\] We herein, describe an unusual combination of coronal hypospadias, AUV, and diverticulae that has not been reported earlier.

CASE REPORT

A 35 weeks, vaginally delivered male child presented on 24th day of life with a penile swelling and torsion toward the left side since birth. The child had never passed urine in stream and was dribbling. A cystic swelling was seen on the ventral aspect of the penis. On compression of the swelling, a few drops of urine trickled through the stenotic external urinary meatus that was located at corona toward the left side. The penis also showed torsion to the left as indicated by the course of the midline raphe on the penis. On abdominal examination, there was no lump or organomegaly. Ultrasonography and the renal function tests were normal. An urethrocystogram, performed by instilling the dye through the stenotic external urinary meatus that was located at corona toward the left side. The penis also showed torsion to the left as indicated by the course of the midline raphe on the penis. On abdominal examination, there was no lump or organomegaly. Ultrasonography and the renal function tests were normal. An urethrocystogram, performed by instilling the dye through the stenotic external urinary meatus, showed normal bladder and posterior urethra. However, the anterior urethra demonstrated two wide mouthed diverticulae with constriction between the two without an evidence of vesicoureteric reflux [Figure 1].

As there was severe meatal stenosis, meatotomy was done which resulted in a distal hypospadiac meatus. Subsequent cystoscopic examination demonstrated a normal bladder and posterior urethra but the anterior urethra was dilated with a diaphragm-like membrane similar to Young's Type III posterior urethral valves [Figure 2]. The membranous AUVs were fulgurated endoscopically.

Following meatotomy and fulguration of the valves, the swelling over the ventral aspect of the penis has disappeared, however, the torsion is still persisting [Figure 3]. A follow-up examination at 6th week showed normal voiding pattern, renal functions, and radionuclide...
and diverticulae being secondary to obstruction whereas, others clearly distinguish between AUV and the diverticulum. Congenital urethral diverticulum has been postulated to occur due to distal obstruction such as meatal stenosis.[2] Various etiological theories, which have been proposed for the AUV and diverticulae, are developmental derangement of the corpus spongiosum paraurethral cyst rupturing into urethra, abortive urethral duplication and modified form of accessory urethral canal.[2-4] In the present case, the AUV occurred as a diaphragm indicating its primary nature rather than being secondary to a diverticulum. The events probably, started in the antenatal period before the formation of the phallus as evidenced by distortion of the midline raphe that represents midline fusion of the genital folds forming urethra. The formation of the diverticulum in AUV has been ascribed to the protrusion of mucosa through a defect on ventral surface of the urethra due to faulty development of the corpus spongiosum.[5] A review of English language literature showed that association of AUV and hypospadias has not been reported earlier. Faulty urethrogenesis associated with improper fusion of the urethral folds led to the occurrence of a combination of anterior urethral defects, such as, AUV, hypospadias, and meatal stenosis. Inadequate support provided by the corpus spongiosum anteriorly along with meatal stenosis led to formation of diverticulum distal to AUV as well. An urethrography, by both descending and the ascending routes is considered mandatory for the diagnosis of this anomaly.[4,5]

Obstructive lesions of the anterior urethra may be considered a spectrum of disorders of varying severity in lower urinary tract. Whenever, one anomaly is found, the urethra should be searched for other defects.[2,4]

REFERENCES

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