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Case Report

Anterior urethral diverticulum: A rare presentation

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ABSTRACT

Congenital anomalies of the urogenital tract are the most common anomalies found in the foetus, neonates and infants, but anterior urethral valves and diverticula are rare. Here, we present a case with congenital anterior urethral diverticulum associated with patent ductus arteriosus and polydactyly.

KEY WORDS

Anterior urethral cyst; anterior urethral diverticulum; anterior urethral valve; congenital; patent ductus arteriosus; polydactyly

INTRODUCTION

Congenital anomalies of the urogenital tract are the most common anomalies found in the foetus, neonates and infants,[1] but anterior urethral valves and diverticula are rare.[2] Here, we present a case with congenital anterior urethral diverticulum. What is peculiar with this case is that the same patient had two more congenital anomalies (patent ductus arteriosus and polydactyly). However, we could not find any inter-relation in published literature.

CASE REPORT

A 9-year-old male child presented with dribbling after micturition and swelling at the distal shaft of the penis since birth [Figure 1]. He also had a history of patent ductus arteriosus, which was discovered in his early childhood, for which percutaneous closure was done about a year ago. The patient also had bilateral polydactyly feet (six toes in each foot) [Figure 2].

On clinical and ultrasonographic examination, we found that the patient had congenital anterior urethral diverticulum [Figure 3].

The diverticulum was excised through a degloving skin incision [Figure 4]. Postoperatively, the child had normal stream and no follow-up dribbling [Figure 5].

DISCUSSION

Anterior urethral diverticulum is an outpouching of the anterior urethra through the corpus spongiosum.

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Figure 1: Pre-operative view of anterior urethral diverticulum

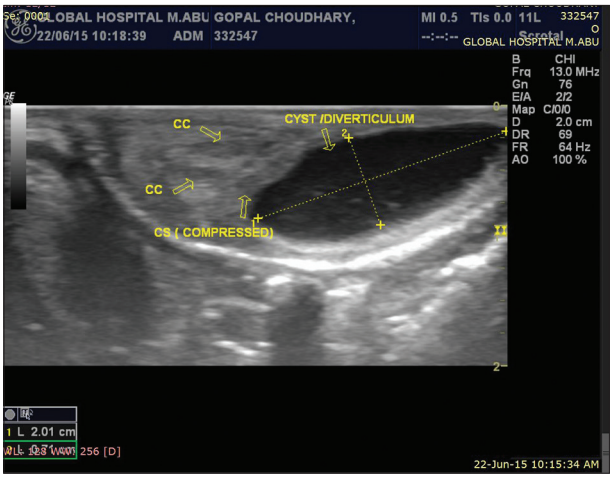

Figure 3: Ultrasonography image of anterior urethral diverticulum

Some authors consider anterior urethral valves and diverticula as the same entity, and some consider them to be two distinct entities.[2] It has been suggested that valves cause proximal urethral dilatation with the formation of a sac-like diverticulum. On the other hand, some believe that the distal lip of a diverticulum rises and acts like a valve when the diverticulum is distended with urine.[2] An important differentiating point may be that while congenital anterior urethral valve is covered by corpus spongiosum, congenital anterior urethral diverticulum protrudes through it, and hence, it is covered only by skin.[3]

We believe that this distinction is only theoretical, and practically, both are the same because congenital anterior urethral valve, at the time of presentation, is indistinguishable from congenital anterior urethral diverticulum, and the symptoms and management are the same.

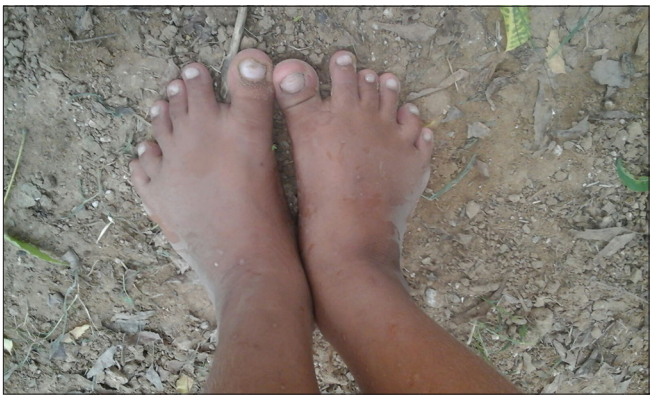

Figure 2: Polydactyly of both feet

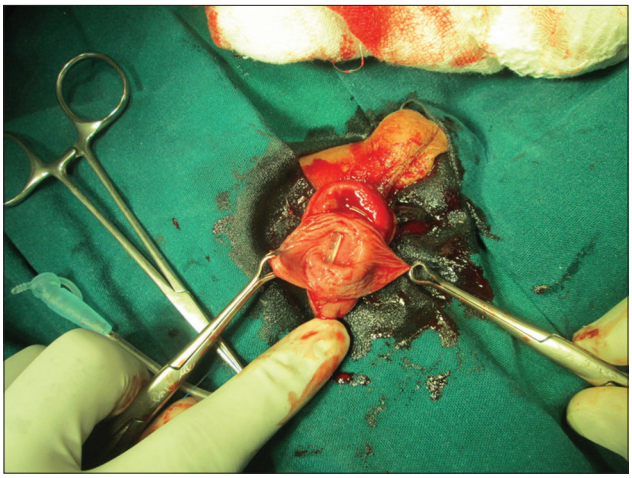

Figure 4: Intra-operative view showing the opened diverticulum with catheter *in situ*

There are generally two types of anterior urethral diverticula.[2] Those arising from the ventral surface of bulbar urethra are most common and present with obstructive symptoms; while the others, arising from the ventral surface of the urethra near the penile tip are rare, and are more prone to calculus formation.[2]

There are various embryologic theories of anterior urethral diverticulum formation such as: (a) developmental defect resulting in the weakness of corpus spongiosum;[2] (b) an incomplete hypospadias;[4] (c) cystic dilatation of urethral glands; (d) sequestration of an epithelial rest and (e) congenital anterior urethral valve and congenital anterior urethral diverticulum arising from the anterior lip of ruptured syringocele of Cowper's duct.[2]

Patients usually present complaining of poor urinary flow, post-micturition dribbling, penile ballooning and/or urinary tract infection.[4]

Figure 5: Post-operative view showing a good urinary stream with no fistula

The diagnosis of congenital anterior urethral diverticulum/valve can easily be done by a clinical examination, ultrasonography, retrograde urethrography, voiding cystourethrography and/or urethroscopy.

The surgical management may be endoscopic or open. In endoscopic surgery, the pouch still persists, hence it can develop a flap again, and re-operation may be required. In these cases, regular endoscopic surveillance is needed.

Open approach, on the other hand, obviates this, but fistula formation is a potential complication, and in some cases, temporary urinary diversion may be required.

CONCLUSION

Congenital anomalies of the urogenital tract are the most common anomalies found in the foetus, neonates and infants, but anterior urethral valves and diverticula are rare. They can be easily diagnosed and managed by surgical repair.

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Conflicts of interest

There are no conflicts of interest.

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