

Cowper's Syringocoele

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Section: Uroradiology & genital male imaging

Case Type: Clinical Cases

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Abernethy

Patient: 12 years, male

Clinical History:

The patient presented with a 3-week history of post voiding dribbling and a poor urinary stream. There was no history of trauma or of urinary tract infection. Physical examination was unremarkable. An US scan of the bladder revealed a pre-micturition volume of 220 ml and despite 2 attempts at micturition, with visible straining, there remained a significant residual volume of 159 ml. Endoscopy and micturating cystourethrogram were performed.

Imaging Findings:

The patient presented with a 3-week history of post voiding dribbling and a poor urinary stream. There was no history of trauma or of urinary tract infection. Physical examination was unremarkable. An US scan of the bladder revealed a pre-micturition volume of 220 ml and despite 2 attempts at micturition, with visible straining, there remained a significant residual volume of 159 ml. Endoscopy revealed a Cowper's syringocoele, which was deroofed. A micturating cystourethrogram showing retention of contrast medium in a dilated Cowper's duct confirmed the diagnosis [Fig]. At follow up, his symptoms had resolved.

Discussion:

Cowper's glands comprise two groups of periurethral glands lying dorsolateral to the membranous urethra. The main Cowper's glands are situated within the urogenital diaphragm, while the second accessory pair lie within the spongy tissue of the bulbar urethra. The glandular ducts may open separately into the proximal bulbar urethra or unite forming a single duct. These glands are accessory sex glands in the male, and secrete a mucinous lubricant that is believed to act as a coagulation factor for spermatozoa. The incidence of Cowper's syringocoele has been reported to be 1.5%. Obstruction of the duct leads to a retention cyst, which bulges into the urethral lumen as a translucent cystic mass. A rounded filling defect is seen on urethrography. If the roof of the cyst perforates either spontaneously or following instrumentation, the urethrographic appearances are characteristic, with contrast filling a dilated distal duct which is exterior and parallel to the ventral surface of the bulbar urethra. The precise aetiology of cystic dilatation of Cowper's glands is not clear, but it has been suggested to be congenital in infants and children. In adults it is thought to be an acquired phenomenon following inflammation (urethritis) and trauma (instrumentation and prolonged catheterisation). A syringocoele is usually an incidental finding in asymptomatic patients in most cases but presentation may be with urinary infections, post voiding dribbling, frequency, urgency, haematuria and obstructive symptoms. Asymptomatic non-obstructive syringocoeles are treated expectantly with surgical intervention if obstructive symptoms develop. The clinical significance of a Cowper's syringocoele lies in its potential to cause lower urinary tract obstruction, and must therefore be considered during the evaluation of voiding dysfunction in young male subjects. The differential diagnosis of a dilated duct visualized on endoscopy includes urethral duplication, urethral diverticulum, ectopic ureter or a Mullerian duct remnant. These errors may then be followed by an unnecessary operation for a lesion that can be treated by endoscopic deroofting.

Differential Diagnosis List: Cowper's Gland Syringocoele

Final Diagnosis: Cowper's Gland Syringocoele

References:

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Figure 1

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Description: MCUG showing the derooft Cowper's duct retaining contrast due to retrograde filling

Origin: