

URETHRORECTAL FISTULA - COMPLICATION OF TUBERCULOSIS OF PROSTATE

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ABSTRACT

INTRODUCTION

Urethrorectal fistula is an abnormal communication between the urethra and rectum. It can be congenital in children and acquired in adults. Congenital cases usually occur in association with anorectal malformations.^{1,2} In neonates, urine may be meconium stained. Concurrent imperforate anus requires postnatal surgery. In adults, they arise as complications of prostate surgery, infections including tuberculosis, neoplasm, radiation therapy, and urethral instrumentation.^{1,3,4} Adults may present with recurrent urinary tract infections, urine per the rectum, faecaluria, hematuria, pneumaturia and infection of the seminal vesicles. We present a 50 years old male patient with past history of pulmonary tuberculosis presenting with chief complaints of difficult in passing urine, faecaluria, pneumaturia and leakage of urine from the rectum during micturition. Large irregular pooling/extravasation of contrast in retrograde urethrogram and large urethra-rectal fistula seen in computed tomography. We discuss clinical findings and the results of preoperative retrograde urethrogram and computed tomography findings along with review of this rare condition.

KEYWORDS

Urethrorectal, Fistula, Urethrogram, Computed tomography.

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INTRODUCTION: Genitourinary tract fistulas are diverse in clinical presentation, aetiology, and morbidity. Abnormal communications may form within the genitourinary system or may involve other organ structures including the gastrointestinal tract, vascular system, lymphatic system, and skin. They may generally be classified into those that involve the upper urinary tract (kidney, ureter), the lower urinary tract (bladder, urethra), and the female reproductive tract (vagina, uterus). Appropriate diagnostic studies vary depending on the anatomic sites of origin and termination of the fistula. In most cases, several imaging tests may be useful to establish the diagnosis. Intravenous urography (IVU) and pyelography or ureterography are mainstays of upper tract investigation. Likewise, voiding cystourethrography (VCUG) and urethrography are central to the study of the lower tract. Cross-sectional techniques, in particular CT, are providing increasingly more diagnostic possibilities and are considered the primary test in some cases.¹

Urethrorectal fistula is a communication between the urethra and rectum. It can be congenital in children and acquired in adults.

CASE REPORT: A 50 years elderly malnourished male patient presented with chief complaints of difficulty in passing urine, burning micturition, passing foul smelling brown coloured urine, occasionally gas along with urine and urine along with faeces since two weeks. Clinical examination showed normal external genitalia. Per rectal examination revealed foul smelling fluid filled rectum without other significant abnormalities. No fistulas noted in the perineum. Patient gave past history of pulmonary tuberculosis and completed treatment for the same. Routine blood investigation showed anaemia (10.6gm), normal white blood count, platelet count and raised ESR of 42mm/hr. Patient was referred to department of Radio-diagnosis for Retrograde urethrogram (RGU), which showed large irregular pooling/extravasation of contrast in bulbo-membranous urethra region, however minimal amount of contrast was seen entering into urinary bladder. Provisional diagnosis of urethral diverticulosis was made and suggested Computed tomography (CT) abdomen and pelvis with contrast for further evaluation. Patient was catheterized with Foley's catheter.

CT scan of the abdomen and pelvis was done using a 64-slice MDCT scanner with both intravenous and oral contrast media. All the images were acquired with the patient in a supine position and holding his breath. The images were reconstructed on a dedicated CT work station with multi-planar-reconstruction (MPR) and volume rendering (VR) reconstruction. The images were evaluated by two radiologists.

Contrast enhanced computed tomography (CECT) of abdomen-pelvis with oral contrast showed large air and fluid

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filled area in the region of prostate and rectum surrounding the Foley's catheter in urethra with non-visualization of prostate gland and multiple air pockets in bilateral seminal vesicles. Following this 20 ml of iodinated contrast infused per urethra after removing Foley's catheter which showed entering into the prostate region, rectum and distal sigmoid colon. CT scan confirmed that the fistula involved solely the urethra and excluded even a minimal involvement of the bladder. No bladder wall thickening noted even along the base of urinary bladder. Diagnosis of near complete destruction of prostate with urethro-rectal fistula at the level of prostatic urethra was made.

Biopsy taken from the residual prostate and the fluid in the region of prostate showed multiple acid fast bacilli with caseating epithelioid granulomas.



Fig. 1: Retrograde urethrogram showing large irregular extravasation of contrast in bulbo-membranous urethra region



Fig. 2: Axial and reconstructed sagittal Plain CT scan showing complete destruction of prostate with air pockets and fluid surrounding Foley's bulb in the region of prostatic urethra

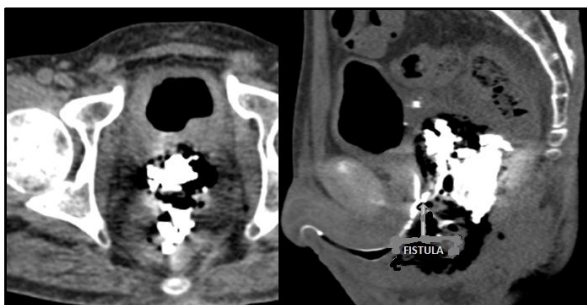


Fig. 3: Axial and reconstructed sagittal CT scan post RGU showing fistulous communication of prostatic urethra with destroyed prostate and rectum

DISCUSSION: Urethrorectal fistula is a communication between the urethra and rectum. It can be congenital in children and acquired in adults. Congenital cases usually occur in association with Anorectal malformations.^{1,2} In neonates, urine may be meconium stained. Concurrent imperforate anus requires postnatal surgery. In adults, they arise as complications of prostate surgery, infections including tuberculosis, neoplasm, radiation therapy, and urethral instrumentation.^{1,3,4} Urethrovaginal fistula is the common urethrogenital fistula in female. It results from post-surgical procedure, obstetric complication, pelvic trauma, neoplasm and pelvic irradiation. Urethrovaginal fistulas may also develop after prolonged transurethral catheter with pressure necrosis. Urethrogenital fistula in male patient is rare.^{5,6,7} Adults may present with recurrent urinary tract infections, urine per the rectum, faecaluria, haematuria, pneumaturia and infection of the seminal vesicles.

DIAGNOSTICS OF RECTOURETHRAL FISTULAS:

Rectourethral fistulas may be strongly suspected from the patient's history (faecaluria, abnormal urethral discharge, pneumaturia, leakage of urine from the rectum during micturition). The most important diagnostic steps are rectal examination, proctoscopy, careful urethroscopy, intraurethral injection of methylene blue dye in case of clinical and surgical setup.^{8,9,10} Retrograde urethrography and CT scan can delineate the fistulous tract for surgical planning. Lateral images may be needed to demonstrate thin tracts, which may otherwise be obscured by contrast material in the rectum or urethra.¹¹

It is very important not only to diagnose the fistula, but also to localize it correctly in the event of surgery.^{12,13} In every case especially in the case of a suspected neoplastic pathology, it is necessary to establish the cause of the fistula to plan the best therapeutic and/or surgical approach of the treatment.¹⁴ It is therefore necessary to use the available diagnostic technologies to confirm the diagnosis.

The CT is a sensitive diagnostic technique that is quick and better tolerated in patients than the barium/gastrografen enema.¹⁵ In particular, CT with 3D reconstruction allows complete imaging of the anatomical relations with the bladder and colon. It facilitates the better planning for an intervention.^{16,17}

The signs most common in the presence of a fistula are air inside the bladder (90%), focal thickening of the bladder wall (90%), and/or of the adjacent intestinal wall (85%), extraluminal soft-tissue mass (75%), a passage of contrast media-administered orally or rectally-in the bladder (20%), and adherence of the intestinal wall to the bladder wall (25%).¹⁵

Though the CT allows one to evaluate minimal amount of air and can distinguish whether air in the bladder or bowel loops. The presence of air in the bladder must be evaluated very carefully, due to the fact that it could be linked to bacterial infections or iatrogenic treatments, due to Foleys catheterization.¹⁶ Occasionally, the fistulisation site can be

identified by locating the focal thickening of the bladder and intestinal walls.¹⁵

CONCLUSION: Tuberculosis of Genitourinary tract is common in India predominantly involving kidneys and bladder. Tuberculosis of prostate and seminal vesicles are very rare. Acquired Urethrorectal/urogenital fistula in a patient with previous history of tuberculosis, could be due to tuberculosis of the genitourinary tract as the cause for fistula formation.

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