

## Xanthogranulomatous Prostatitis causing Entero-vesical fistula

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**We report a case of entero-vesical fistula after transurethral prostatectomy caused by undetected xanthogranulomatous prostatitis. This patient was managed by diversion of the fecal and urinary stream to allow healing of the fistula. The patient had uneventful recovery after this conservative method.**

***Bahrain Med Bull 2004;26(4):***

Entero-vesical fistula is an abnormal communication between the bowel and the bladder. Entero-vesical fistulae are primarily caused by diverticular disease, prostatic or colonic malignancy, granulomatous bowel disease or iatrogenic causes<sup>1</sup>. Entero-vesical fistulae account for one in every 3,000 surgical admissions. These fistulae are more common in men, probably because the uterus acts as a partial barrier between the intestines and the bladder. Colo-vesical fistulae account for most entero-vesical fistulae, and diverticular disease accounts for about 60% of colo-vesical fistulae.

Other causes of entero-vesical fistula include colon cancer, Crohns disease, radiation enteritis, trauma, bladder cancer, appendicitis, gynaecologic tumours, tuberculosis, and actinomycosis. Clinically, patients present with symptoms of bladder irritability. The classical symptoms of pneumaturia and faecaluria are not always present.

Entero-vesical fistulae can be divided into four primary categories based on the bowel segment involved, as follows: (1) colo-vesical, (2) recto-vesical (including recto-urethral), (3) ileo-vesical, and (4) appendico-vesical fistulae. A colo-vesical fistula is the most common form of vesico-intestinal fistula and is most commonly located between the sigmoid colon and the dome of the bladder. Recto-urethral and recto-vesical fistulae are observed in the postoperative setting, such as after prostatectomy, as a consequence of chronic infection or tissue destruction accompanying massive decubiti, or in the setting of acute infections such as Fournier gangrene.

Entero-vesicular fistulae may be described as Gouverneur syndrome, namely, suprapubic pain, frequency, dysuria, and tenesmus. Chills and fever are less common; colo-vesical fistula manifesting as sepsis is uncommon. Sepsis has been reported in 70% of patients with urinary outlet obstruction. The fistula may be asymptomatic. In most series, the patients may have been treated for recurrent UTI for 4-12 months before the diagnosis of fistula is made.

Intravenous urography (IVU) is not usually helpful in establishing a diagnosis of entero-vesical fistula, though occasionally air in the bladder, an air fluid level in the bladder, or extra-vesical contrast in the bowel may suggest the diagnosis. Cystography is more accurate than IVU, but may

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fail to demonstrate the fistula in many cases. CT is the most accurate of all imaging tests. The typical CT findings in entero-vesical fistula are air in the bladder, focal bladder wall thickening and adjacent bowel wall thickening, and extra-vesical soft tissue mass. Treatment can either be medical by prophylactic antibiotics and watchful waiting or surgical therapy to repair the fistula.

## **THE CASE**

Sixty-three year old patient was admitted in hospital after developing retention of urine. Otherwise a fit individual, he was controlled diabetic on oral hypoglycemics and taking cyclosporine for retinal implantation done a year ago after traumatic injury. His bladder was catheterized with ease. One day after his admission, he began to develop watery diarrhea in copious amounts without any voluntary control of defecation. He also had associated anal pain, which revealed on examination second degree piles and moderately enlarged prostate without any tenderness.

He had a prostatic ultrasound done, which revealed an enlarged prostate measuring 73cc with bladder wall thickening due to probable cystitis. His prostatic specific antigen level was 2.2. He was investigated by gastroenterology for the intractable diarrhea and colonoscopy was planned for him. He was posted for both colonoscopy and transurethral resection of prostate the next day. Both procedures were uneventful; the resection produced 29 grams of prostatic tissue.

On the fourth day post-operatively, the patient started to develop fecaluria in significant amounts into the catheterization bag. An urgent cystogram was done, which revealed a patent communication from the prostatic urethra to the rectum. The patient was taken for cystoscopy to confirm the radiological findings and estimate the size of the urethral fistula opening. Operative findings revealed a large 3cm defect at the level of the prostatic urethra with large amounts of fecal matter in the bladder, which was washed out and urinary diversion was done through suprapubic catheter.

Thereafter, the patient was admitted to the intensive care unit due to impending sepsis since he began to have tachycardia, altered consciousness and raised white blood count with bacteremia. He was then managed with fecal diversion by a transverse colostomy and rectal washout of all fecal matter. His condition began to improve rapidly and he was transferred from the intensive care to the ward after the fourth day.

The patient remained on double diversion. After six weeks, another cystogram was done to evaluate the size of the fistula. Radiologically, the fistula had reduced significantly in size to a small slit. He regained his health and well-being with almost complete healing of the fistula.

Histology of the prostatic tissue showed benign prostatic hyperplasia superimposed with xanogranulomatous prostatitis. The colonic biopsy taken previously showed no abnormalities.

## **DISCUSSION**

Entero-vesical fistulae are an uncommon condition<sup>2</sup>. The causative factors of these fistulae are diverticular disease, malignancy, granulomatous bowel disease and iatrogenic causes<sup>1</sup>. McBeath et al in his twelve years' experience with entero-vesical fistulae showed 59% are caused by diverticular disease. However, Liu et al's study of 41 cases showed 92.7% of cases were as a result of malignancy, 4.9% were due to diverticulitis and only 2.4% were because of iatrogenic causes. None of the studies document inflammatory or benign disease of the prostate as a cause of fistula development.

Non-specific granulomatous prostatitis is rarely seen affecting the prostate and xanthogranulomatous prostatitis is even rarer<sup>3</sup>. Matsumoto et al reported four cases of non-specific granulomatous prostatitis and one case of xanthogranulomatous prostatitis. These cases were all diagnosed by histological examination after transurethral resection, prostatectomy or biopsy. These patients showed no diagnostic differentiating symptoms compared to the usual urinary complaints of dysuria and frequency.

Mieko et al documented two cases of xanthogranulomatous prostatitis, which had non-specific symptoms and mimicked the clinical course of prostatic adenoma or adenocarcinoma<sup>4</sup>. Although, there are reports of xanthogranulomatous prostatitis afflicting patients and at times, simulating prostatic adenocarcinoma<sup>5</sup>, there are none that document it as a cause for developing entero-vesical fistula.

Clinically, patients presenting with xanthogranulomatous prostatitis will have frequency, urgency, nocturia, dysuria, perineal pain and urethral discharge<sup>6</sup>. These symptoms are non-specific. This patient had the above common urinary complaints except the urethral discharge, which tended to sway towards the diagnosis of benign prostatic hyperplasia. The fistula was caused by the underlying disease of xanthogranulomatous prostatitis and possibly accelerated triggered by the transurethral resection of the prostate.

The fistula presented in this patient as fecaluria, which is one of the common presentation<sup>2,7</sup>. Lui et al found that 58.5% of patients presented with fecaluria, followed by abdominal pain (22%) and dysuria (14.6%)<sup>7</sup>. Daniels et al reported that 75% of patients had pneumaturia, 63% of patients had fecaluria and 57% had urinary tract infections<sup>2</sup>. This patient did develop these symptoms after prostatectomy, which makes us believe that the fistula was triggered by the combination of trauma of prostatectomy and the underlying disease of xanthogranulomatous prostatitis

The recommended diagnostic tool for entero-vesical fistulae is cystoscopy and urine cytology for fecal matter. The positivity rate of cystoscopy is nearly 89%<sup>2</sup>. Other modalities used for diagnosis are urine cytology (86%), barium enema (63-65%), CT scanning (55%), cystography (27.5-60%), and IVP (35%)<sup>2,7</sup>. This patient underwent cystography prior to a definitive diagnosis with cystoscopy.

Management of these fistulae is numerous. Some are reported to do diversion only, others one-stage fistula repair and multi-stage repair or watchful surveillance. There was no statistical difference in complications between the groups treated with single or multistage repair<sup>1</sup>. It is advocated to individualize the management to the condition of the patient so as to give satisfactory results<sup>7</sup>. Diversion only was chosen conveniently for this patient considering his clinical condition at that time and the fact that he was immuno-compromised by the cyclosporine course and diabetes. Double diversion created the grounds for better healing of the fistula in this patient and showed satisfactory results.

## CONCLUSION

**Xanthogranulomatous prostatitis is a rare condition affecting the prostate. In this patient, the presentation of the disease was unusual in that he developed an entero-vesical fistula, which was possibly triggered by the transurethral resection of the prostate. Conservative management with diversion of both urinary and fecal stream is an appropriate choice of treatment for this condition since it was successful with the patient.**

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