

A Case of Xanthogranulomatous Prostatitis Concurrent with a Prostatic Abscess

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= Abstract =

Xanthogranulomatous prostatitis is a rare inflammatory condition of the prostate. We report a case of xanthogranulomatous prostatitis. An 82-year-old man presented to our emergency department complaining of gross hematuria. A hard, enlarged, non-tender prostate was palpated on digital rectal examination. Urinalysis showed hematuria and pyuria, and the complete blood count (CBC) revealed leukocytosis. The prostate-specific antigen (PSA) level was elevated at 86.8 ng/ml. Computed tomography (CT) showed an enlarged prostate (volume 100 ml) that protruded into the bladder base. In the left lobe of the prostate, a 1.2×1.1-cm abscess was seen. Transurethral resection of the prostate was done. The pathological diagnosis was xanthogranulomatous prostatitis. The natural progression of the disease is unknown because of the paucity of cases and long-term follow-up reports. To evaluate the pathogenesis and long-term features of progression of this disease, more clinical cases should be collected.

Key Words: Prostatitis, Granuloma, Urinary tract infections, Hematuria

Xanthogranulomatous inflammation is diagnosed by the presence of chronic granulomatous inflammation that contains xanthoma cells. It can affect the colon, ovaries, pancreas, salivary glands, appendix, gall bladder, endometrium of the uterus, and kidney.¹ Xanthogranulomatous prostatitis is a rare non-specific inflammatory condition of the prostate and its etiology and pathogenesis are unclear.^{2,3} Only ten cases involving the prostate have been reported worldwide and none in Korea. We report a case of xanthogranulomatous prostatitis.

Case Report

An 82-year-old man presented to our emergency department complaining of gross hematuria with voiding difficulty that has worsened recently. His medical history included hypertension and cerebral infarction. The patient had been treated at a local clinic for fever, myalgia, and dysuria 7 days earlier. The febrile symptoms were relieved at the time of his visit to us.

On physical examination, his vital signs were normal, but the lower abdomen was distended. A hard, enlarged, non-tender prostate was palpated on digital rectal examination. A 22 French Foley catheter was inserted and 1,200 ml of bloody urine were drained. Urinalysis showed hematuria and pyuria, and the complete blood count (CBC) revealed leukocytosis ($17,060 \times 10^6/\mu\text{l}$). The prostate-specific antigen (PSA) level was elevated at 86.8 ng/ml. Urine cytology

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showed no malignant cells, and Gram-positive cocci were cultured in the voided urine (10,000 CFU/ml). To rule out a bladder tumor, cystoscopy was performed and showed mild trabeculated, erythematous mucosa of the bladder. The prostate was greatly enlarged, with the kissing sign, and bled easily. Computed tomography (CT) of the abdomen and pelvis showed an enlarged prostate with calcification (volume 100 ml) that protruded into the bladder base (Fig. 1B). In the left lobe of the prostate, an 1.2×1.1-cm abscess was seen (Fig. 1B). To manage the persistent gross hematuria and to relieve the obstruction due to the enlarged prostate, transurethral resection of the prostate (TURP) was done on the fourth day of admission. The prostate was hyperemic and both lobes were enlarged. About 16 g of the prostate were resected, thick whitish pus was drained, and the abscess cavity was visualized. The

obtained prostate specimen revealed foci of granulomatous inflammation, which showed distended glandular lumens surrounded by macrophages and lymphocytes. The granulomas consisted of foam cells, which are macrophages with lipid components (Fig. 2A). The aggregated macrophages were positive for CD68 immunostaining, which stains tissue macrophages, histiocytes (Fig. 2B). The hematuria stopped and the leukocytosis returned to the normal range 2 days postoperatively. The Foley catheter was removed on the seventh postoperative day. One month postoperatively, the serum PSA had decreased to 15 ng/ml. Postoperatively, the patient complained of a sensation of residual urine and urge incontinence, so an α blocker, combined with low-dose anticholinergics, was prescribed. This resulted in improved symptoms with 20 ml post-voiding residual urine.

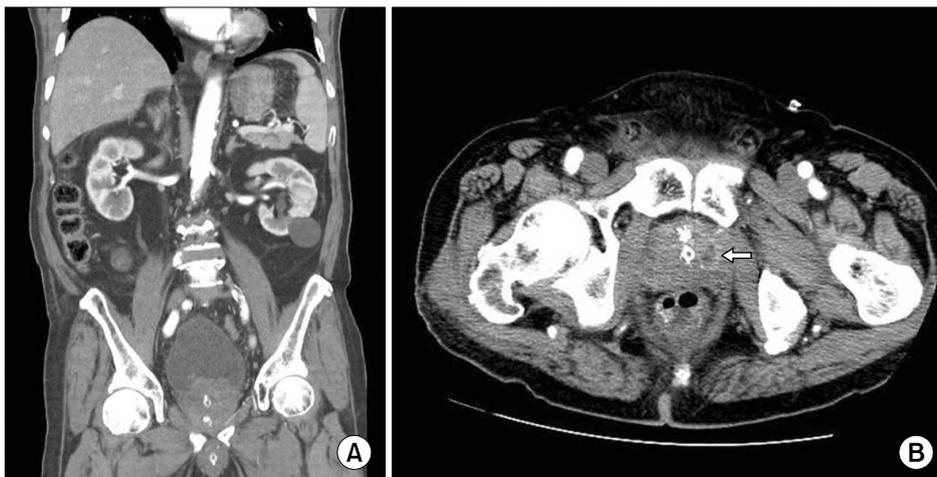


Fig. 1. Computed tomography (CT) of the abdomen and pelvis. (A) The coronal view shows an enlarged prostate. (B) The axial view shows focal abscess formation (white arrow) in the left lobe of the prostate.

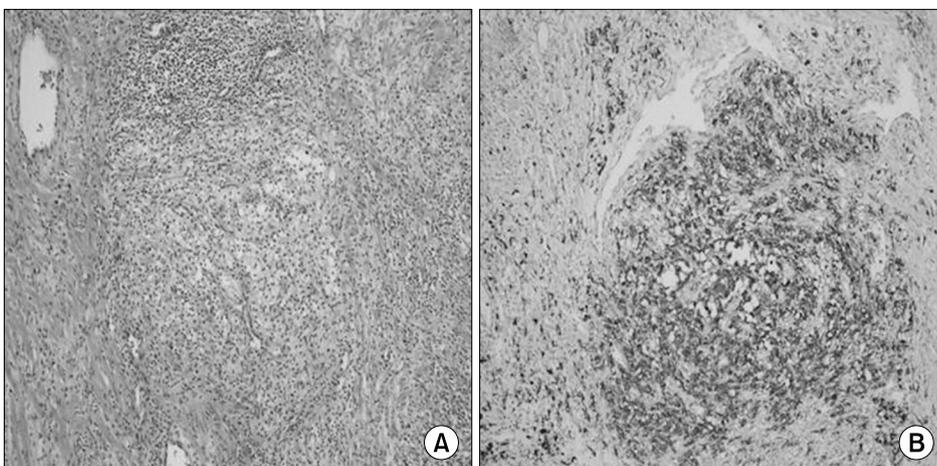


Fig. 2. (A) Microscopically, the TURP specimen reveals foci of granulomatous inflammation, which consists of distended glandular lumens surrounded by macrophages and lymphocytes. The granulomas are composed of foam cells, which are macrophages with lipid components (H&E, $\times 200$). (B) The aggregated macrophages are positive for CD68 immunostaining, which appears brown ($\times 200$).

Discussion

Xanthogranulomatous prostatitis was first described in 1943 by Tanner and McDonald.⁴ The clinical manifestations of this disease are urinary obstructive symptoms or symptoms of severe urinary tract infection.^{5,6} As a hard nodule is palpable on digital rectal examination and the serum PSA is elevated, this condition may be mistaken for prostate cancer.^{7,8} Additionally, the clinical findings and histopathological features mimic prostate adenocarcinoma.⁸ The finding that is diagnostic for xanthogranulomatous prostatitis is foamy macrophages (also known as xanthoma cells) in the inflammatory cell infiltrate. Xanthomatous histiocytes usually have small dark nuclei and abundant clear-to-foamy cytoplasm and this may be confused with prostate carcinoma.

The etiology and pathogenesis of this disease are unclear. Some suggest that ductal obstruction plays a part in its pathogenesis.⁵ Unlike xanthogranulomatous pyelonephritis, prostatic stones have not been reported.

Unlike xanthogranulomatous inflammation of the kidney, management of this condition is not very different from that of other inflammatory diseases of the prostate.⁹ Conservative treatment is the rule and surgical intervention is necessary when conservative methods are ineffective. In the literature on xanthogranulomatous prostatitis, surgery is usually done because of intractable lower urinary tract symptoms. Our patient received antibiotics for his febrile illness and underwent a TURP for persistent gross hematuria and acute urinary retention.

Xanthogranulomatous prostatitis is very rare. The natural progression of this disease is unknown because of the paucity of cases and lack of long-term follow-up reports. Because it mimics prostate adenocarcinoma both clinically and histopathologically, one must be careful to differentiate these two diseases.

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