A rare presentation of granulomatosis with polyangiitis with prostate involvement

Sirs,

Granulomatosis with polyangiitis (GPA) is characterised by inflammation of small vessels. Although GPA patients commonly present with involvement of renal, pulmonary or gastrointestinal system, prostate involvement is a rare condition. We herein reported a case of GPA presenting with prostate involvement.

A 60-year-old male with hypertension, nephrolithiasis, rheumatoid arthritis and chronic kidney disease (basal creatinine: 1.7–2.3 mg/dL) presented with 3-month history of weight loss and weakness. Physical examination was normal. Laboratory examination revealed anaemia (haemoglobin: 9.7 mg/dL) and high free prostate-specific-antigen (PSA) (0.62 ng/mL) levels. Urinary dipstick revealed 3(+) leukocyte esterase, leukocyte: 96 cells/HPF, erythrocyte: 23 cells/HPF with no proteinuria. Urine culture was negative. Prostate biopsy was performed to rule out prostate cancer because of weight loss and high free PSA. Biopsy showed necrotising granulomatous prostatitis (Fig. 1) and the patient was referred to our clinic.

Upon admission, computed tomography (CT) showed a 5x4 cm cavity in the upper right lobe. Sputum was negative for tuberculosis; quantiferon was low-positive. Bronchoscopy was normal and bronchoalveolar lavage was negative for mycobacterium tuberculosis. PET-CT was negative for malignancy. During follow-up, patient developed acute kidney injury (AKI) and creatinine increased to 4.8 mg/dL. Vasculitis work-up revealed positive c-ANCA; anti-PR3 was 120 (0-19) RU/mL. Kidney biopsy showed acute interstitial nephritis with normal glomeruli and no glomerular hypercellularity, fibrinoid necrosis or crescents. Immunofluorescence was negative for immunoglobulins or complements. He was treated with intravenous 1-gram methylprednisolone for 3 days followed by rituximab 500 mg/weekly for four weeks. Creatinine decreased to 1.72 mg/dL.

We herein reported a GPA case presenting with prostate involvement as initial feature. Classically, GPA is associated with upper and/or lower respiratory tract involvement with glomerulonephritis. Our patient did not have AKI at admission. Weight loss, weakness and cavitary lesions suggested tuberculosis, which was eventually excluded. Prostate cancer with lung metastasis was another alternative diagnosis, however PET-CT was negative and prostate cancer was excluded by biopsy. After detection of necrotizing granulomatous prostatitis and AKI development, work-up revealed positive anti-PR3 and he was diagnosed with GPA.

Urogenital system involvement in GPA is below 1%, which may be asymptomatic or obstructive and symptomatic (1). Recurrence rate is higher in symptomatic patients, reaching 25% (2). The most common urogenital system involvement is prostatitis (12–37%) (3-5). However, prostatitis secondary to GPA is rare. In a series of 25.387 prostate biopsies, although 200 biopsies were evaluated as granulomatous prostatitis, only 2 patients had GPA (6). In a recent case report, a 26-year-old GPA patient with pulmonary and prostatic involvement was also treated with immunosuppressives (7). Similar to our case, another case report involves a 44-year-old male presenting with prostatitis as the initial feature of GPA (8). Lastly, another case reports a patient presenting with recurrent urinary tract infections caused by obstructive prostatitis revealing GPA (9).

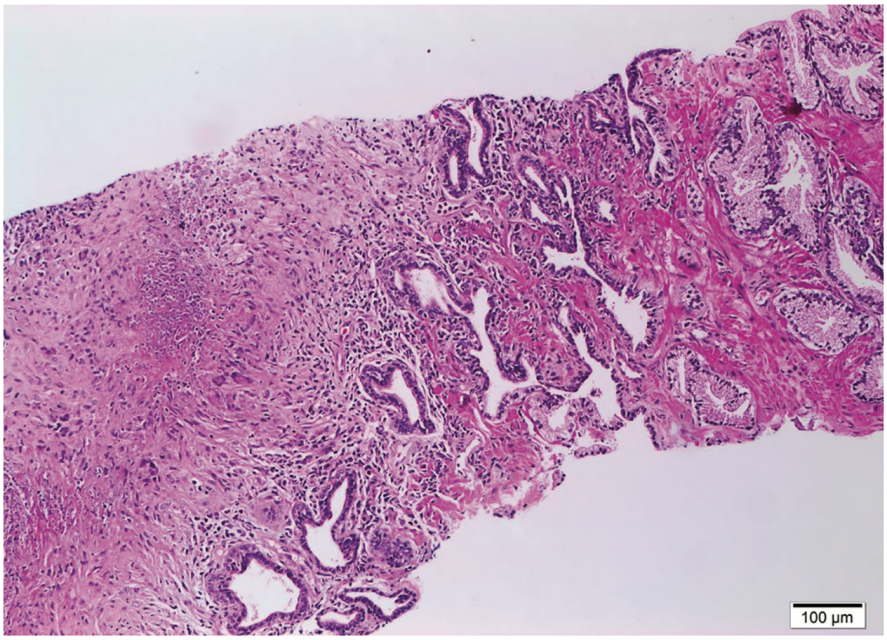

Fig. 1. The prostate biopsy showing necrotising granulomatous prostatitis (H&E, x100).

However, other common causes of granulomatous prostatitis, such as Mycobacterium, Blastomyces, Brucella, spirochetes, parasitic infections, sarcoidosis and allergic reactions, should be included in the differential diagnosis (4). Renal involvement is reported less frequently in patients with prostate involvement (22% *vs*. 40-100%) (10). In our case, although AKI was not observed initially, it developed during follow-up.

Since GPA involvement is rare, treatment options are based on case series. Treatment is selected depending on vasculitis severity. After induction with cyclophosphamide or rituximab along with glucocorticoids; rituximab, azathioprine, methotrexate and glucocorticoids are used during maintenance (2, 11). Haemorrhagic cystitis due to cyclophosphamide may often be confused with disease recurrence.

This case demonstrates a rare GPA presentation with prostate involvement. Patients presenting with rare forms of GPA are at risk for delayed diagnosis. Timely diagnosis and treatment may decrease disease associated morbidity and mortality. The awareness of prostate involvement is crucial.

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