Prostatic involvement in Wegener's granulomatosis

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Summary: Prostatic involvement is an unusual complication of Wegener's granulomatosis. We report two cases with this complication and emphasize the importance of recognizing this manifestation in diagnosis and management of the disease condition.

Introduction

Wegener's granulomatosis is characterized by granulomatous vasculitis of the upper and lower respiratory tracts together with glomerulonephritis.

We present two cases with this disease condition who were admitted within a month of each other and who had clinical and histological involvement of the prostate. This complication has been described before but is not widely recognized.

Case reports

Case 1

A 52 year old man was admitted with acute urinary retention. Six months previously he had developed severe right-sided otitis media. Two months later he felt unwell with malaise, night sweats and end-stream haematuria. Soon after, he noticed epistaxis, and deafness with pain in and discharge from his left ear. He then developed acute urinary retention.

On examination he was unwell with a pyrexia and tachycardia. His eardrums were inflamed and nasal examination revealed crusts but no ulceration. Blood pressure was 160/90 mm Hg. He had a palpable bladder causing great discomfort and on rectal examination an enlarged indurated prostate. Investigations showed a haemoglobin of 9.4 g/dl with normal indices, erythrocyte sedimentation rate (ESR) 93 mm/h, normal urea and electrolytes, creatinine clearance 82 ml/min. Chest radiograph showed a rounded left lower zone opacity and sinus radiographs showed mucosal thickening in both maxillary antra. Following insertion of a suprapubic catheter, he developed a Gram-negative septicaemia which responded to treatment

with antibiotics. Two weeks later his pyrexia recurred and his renal function rapidly deteriorated with a plasma creatinine of 872 $\mu\text{mol/l}$. The clinical diagnosis of Wegener's granulomatosis was supported by a renal biopsy which showed a proliferative glomerulonephritis. Treatment was commenced with prednisolone 60 mg/day, cyclophosphamide 2 mg/kg/day, plasmapheresis and dialysis. Renal function improved and stabilized at a creatinine clearance of 35 ml/min. As he remained unable to pass urine per urethra, the suprapubic catheter was retained. Cystoscopy and transurethral prostatectomy was performed. Prostatic chippings showed foci of frank fibrinoid necrosis of artery walls and periarterial inflammatory reaction (Figure 1).

Case 2

A 40 year old man was referred with a diagnosis of Wegener's granulomatosis made 5 years previously on

Figure 1 Case 1. Prostate: artery showing fibrinoid necrosis of the wall and a florid periarteritis (magnification $\times 180$).

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the basis of para-nasal sinus disease showing characteristic histology and chest radiograph showing multiple round opacities. He had been on prednisolone 15 mg/day and azathioprine 2 mg/kg/day because of persistent sinus and retro-orbital disease. He had had no evidence of renal involvement.

On admission he gave a 3 week history of malaise, night sweats, cough with purulent sputum and end-stream haematuria. On examination he was cushingoid and pyrexial. Chest radiograph showed an increase in size of his pulmonary nodules with cavitation, and sputum grew *Staphylococcus aureus*. Intravenous flucloxacillin and fucidic acid were commenced and his steroid dosage increased to 40 mg/day. His pyrexia resolved and chest radiographs showed improvement over the next 2 weeks but end-stream haematuria persisted. Urine was negative for pathogens and casts. Serum biochemistry and intravenous urogram were normal. At cystoscopy his prostate appeared abnormal. A transurethral resection produced prostatic chippings which showed extensive prostatitis with necrosis and acute inflammation with a granulomatous reaction.

Discussion

Wegener's granulomatosis classically involves the upper and lower respiratory tracts and the kidneys.¹ However, involvement of other sites causing joint,

ocular, skin, muscle, cardiac and neurological disease is recognized.² Unusually the lower urinary tract may be involved. In one case vasculitis of the periureteral vessels caused ureteric obstruction.³ In two female patients dysuria and haematuria were due to granulomas of the urethra.^{4,5}

The prostate can also be involved. In a series of 18 patients 'prostatic symptoms' occurred in one.⁶ In one review, histological prostatic involvement was reported in 7.4% of cases studied.⁷ However, prostatic symptoms are less common, apparent in only 3 of 11 tissue positive cases in another report.⁸

Our two patients with Wegener's granulomatosis had prominent clinical complications from prostatic disease. The first patient had bladder outflow obstruction secondary to vasculitis in the prostate at his initial presentation with the disease condition. In the second patient end-stream haematuria caused by prostatic inflammation developed in association with an infective exacerbation of established upper and lower respiratory tract disease.

Although rare, involvement of the prostate is an important consideration in Wegener's granulomatosis. Haematuria should not be assumed to be due to primary renal disease. In addition, bladder outflow obstruction due to prostatic disease may exacerbate renal failure and may be missed. Finally in patients with prostatic symptoms the prostate may provide an additional site for tissue diagnosis.

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