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Giant Prostatic Calculus Associated with Giant Urethral Calculus

Key Words

Giant calculi
Prostatic, urethral

Abstract

We report 2 cases of giant prostatic calculi associated with giant renal calculi. Both patients were advanced in age and had a long history of urethral strictures and urinary tract infection. They were anemic and their serum creatinine levels were also raised. Diagnosis in both cases was made by rectal examination, and confirmed by plain radiography. Treatment was by suprapubic cystolithotomy preceded by retrograde manipulation of the urethral calculi after control of their urinary tract infection. Both patients made an uneventful recovery, and required regular dilatations of their urethral strictures.

Introduction

Prostatic calculi may be primary or secondary. Primary calculi are usually small and multiple, and secondary calculi, related to obstruction and stasis, are usually larger. Giant prostatic calculi are rare. Urethral calculi are very rare in developed countries and are not uncommon in third world tropical countries. Giant urethral calculi are very rare even in developing countries. Combined giant prostatic and urethral calculi in the same patient is most unusual. We report 2 such cases which to our knowledge have not been previously reported. The etiological factors are also briefly discussed.

Case 1

A 75-year-old Nigerian male presented in the casualty department with a history of dysuria, poor urinary stream and perineal pain for 3 months. He had been having repeated bougienage for multiple urethral strictures for a year. Physical examination revealed a frail old man with a temperature of 39°C, blood pressure of 160/100 and pulse of 96/min.

His bladder was distended and palpable just below the umbilicus. Rectal examination revealed an enlarged, stony-hard prostate, and on penile palpation hard nodular masses were felt in the prostatic and bulbar urethra. The urine was turbid with many pus cells, and grew *Escherichia coli*. A plain X-ray of the abdomen showed a giant radiopaque prostatic calculus with a central linear lucency representing the prostatic urethra. Below the prostatic calculus was a large bilobed radiopaque calculus occupying the bulbous and the

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Fig. 1. Plain X-ray of the pelvis showing a giant prostatic calculus and a giant bilobed calculus in the urethra.

Fig. 2. Plain X-ray of the pelvis. A giant prostatic calculus and multiple urethral calculi are shown. The distal urethral calculus is of giant size.

membranous parts of the urethra (fig. 1). Abdominal sonography revealed bilateral hydronephrosis with loss of renal substance thickness. Ascending cystourethrography showed a very tight bulbomembranous urethral stricture. After treatment of the urinary infection, suprapubic cystolithotomy preceded by retrograde manipulation of the urethral calculus was carried out. The urethral stricture was treated by dilatation.

Case 2

A 78-year-old Nigerian male with a long history of difficulty in passing urine due to urethral stricture was admitted because of retention of urine and overflow incontinence. A general physical examination was essentially normal apart from a distended bladder. His temperature was 38°C, pulse 80/min and blood pressure 170/100. His urine was turbid, contained numerous pus cells and grew *E. coli*. Rectal examination revealed a large stony-hard prostate and hard nodular masses were felt in the prostatic and bulbar urethra on penile palpation. Plain X-ray of the pelvis showed a

giant radiopaque prostatic calculus and multiple radiopaque calculi in the bulbomembranous urethra, the distal urethral calculus being of giant size (fig. 2). Abdominal sonography showed mild hydronephrosis, a thick-walled urinary bladder and dilated distal ureters. A month earlier ascending cystourethrography showed multiple tight bulbomembranous urethral strictures. After treatment of the urinary infection a suprapubic cystolithotomy was performed following retrograde manipulation of the urethral calculi. The urethral strictures required regular dilatations.

Discussion

Prostatic calculi may be primary or secondary. Primary prostatic calcification results from deposition of inorganic salts on the corpora amylacea of the prostatic gland. This may be seen in up to 30% of patients on plain radiographs of the pelvis, and are usually small and multiple [1]. Secondary prostatic

calcification is dystrophic in nature and results from obstruction, stasis, infection (bilateral, nonspecific chronic prostatitis), and from necrosis in prostatic adenoma and carcinoma.

Secondary calculi related to obstruction and stasis are usually larger than primary calculi. They are most often encountered in association with urethral stricture disease or other forms of urethral obstruction. They may be seen in approximately 60% of patients with long-standing urethral stricture disease [1]. Giant prostatic calculi are rare. In addition to those resulting from chronic urethral obstruction, they are an unusual and late complication following prostatectomy [2].

Although urethral calculi are now a very rare clinical entity in the Western world [2, 3], they are still prevalent in developing tropical countries [2] where urethral strictures, usually gonococcal, are still common. But even in these countries giant urethral calculi are uncommon. A giant prostatic calculus associated with a giant urethral calculus in the same patient is even more unusual. Both patients reported here had a long history of urethral stricture and urinary infection. They had no history of prostatectomy or urethroplasty. The urethral calculi must have formed as a

primary event within the urethra (native urethral calculi), as a result of the chronic stasis proximal to the strictures and infection. Both patients had no evidence of renal, ureteric or bladder calculi to suggest that the urethral calculi were migrant. It seems likely that the giant prostatic calculi were secondary to the long-standing urethral obstruction produced by the strictures and calculi, and to superadded infection. Generally, large prostatic calculi are associated with urethral strictures and concurrent urinary tract infection [4]. In view of the patients' advanced age, senile calcification of the corpora amylacea may have been contributory.

At the present time, giant prostatic and giant urethral calculi, either singly or combined, are most unlikely to be seen in developed countries. In developing tropical countries, however, because of poor hygiene, poverty, ignorance, a high incidence of urethral strictures and delay in seeking medical help, such calculi should not be unusual.

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