Case Report

Giant unusual shape vesical calculus

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ABSTRACT

A giant vesical calculus more than 100 gm is a rare entity. Fewer than 30 cases are reported in English literature of vesical calculus more than 100 gm. Largest vesical calculus was of weight 6294 gm by Arthure et al. Available treatment options for vesical calculus include open surgical removal, extracorporeal fragmentation and endoscopic crushing followed by extraction of pieces. Recently, endosurgical mechanical cystolithotripsy followed by percutaneous extraction has been evolved for small or moderate-sized calculi. Our case report demonstrate vesical calculus >100 gm which is a rare finding in today's urologic practice.

CASE REPORT

A 65 yr old male presented with 3 month history of dysuria, frequency of micturition and urgency. There was no history of passing stone in urine. On examination his vitals were normal. Abdominal examination did not reveal any mass or tenderness. On Per rectal examination prostate size was normal but a hard and mobile mass felt in urinary bladder. Neurological examination was normal and no signs of neuropathic bladder was present. Per urethral catheterisation was done. His Hb was 14.7gm%, blood urea was 40mg/dl and serum creatinine was 2.0mg/dl. Urine shows 2-3 pus cells/hpf and no RBCs. Plain radiograph of pelvis revealed a large irregular surfaced calculus in urinary bladder (fig.1) with no other radioopaque shadow in kidney or ureter. Abdominal ultrasound confirmed the diagnosis of bladder calculus. On cystoscopy huge calculus was seen at bladder neck. Then bladder was opened extraperitonially and large hard brownish calculus which has multiple horns was found. It was free from bladder mucosa and weighed 180gm and size 5*6.5*6cm(fig.2). SPC tube placed and romovac suction drain placed around repaired bladder. Drain removed on 3rd post operative day. SPC removed on 7th post operative day. On 10th post operative day catheter was removed and patient passed urine with good stream. Patient was then discharged with good condition.

Fig.1 showing radioopaque shadow showing large irregular surfaced calculus
DISCUSSION:

Vesical calculus is a rare clinical entity accounting for just 5% of all urinary calculi (3,4). Giant vesical calculus of >100 gm is even rarer in today’s modern urologic practice (1,4). Only about 30 cases of >100 gm vesical calculus have been reported in English literature (1). Largest ever vesical calculus reported is of 6294 gm by Arthure et al. (2). Females are generally less commonly affected as 95% occur in males (3,5). Vesical calculus most often occur in case of chronic obstruction and UTI (3,5). These conditions are complicated by diverticulum e.g. Benign prostatic hyperplasia in males, genital prolapse in females, urethral stricture etc. Bladder diverticula is also secondary cause which may interrupt normal voiding. Prolonged catheterisation, neurogenic bladder, foreign body in bladder, trauma are other causes (5). There are case reports of other objects introduced into the bladder which act as an nidus for stone formation. 3 Pomerantz et al. have reported a rare case of formation of urinary bladder calculus around an arterial graft, which was incorporated in the bladder. 5 It is thought that a giant vesical calculus develops from the nidus of the infected material or from a single ureteric calculus with progressive layer-wise deposition of calcified matrix. Stone encrustation of migrated IUD, pessaries and contraceptive diaphragms has been reported (6). Thus, each of the earlier stated factors may mutually contribute to the formation of a calculus. 7 Also, studies have indicated that infection may not be the inciting factor in stone formation, but may play a major role in further stone crystallization. 3

The composition of stones resulting from anatomic obstruction varies with geography and ethnicity. Most of the stone composition is of triple phosphate, calcium oxalate and calcium carbonate. Patient with vesical calculus presents with macroscopic haematuria which generally is terminal (9). Intermittency, frequency, urgency, dysuria, decreased force of the urinary stream, incontinence and lower abdominal pain aggravated by brisk movement may also be present. Bladder stones are rarely asymptomatic at the time of discovery. Chronic obstruction due to vesical calculus may lead to infection, perforation and rarely hydronephrosis and acute renal failure. Vesical calculus are radiopaque on plain radiography. Vesical calculus can also be detected by Ultrasonography, CT scan, MRI and IVU. Open surgery is best recommended for giant vesical calculus (10). For small and moderate size calculus endourological intervention such as optical mechanical cystolithotripsy have added advantage as it can be combined with correction of bladder outlet obstruction (10). Zhaowu et al have recommended that Electrohydraulic shockwave lithotripsy (EHSWL) preferably to be avoided in large, hard vesical calculi and if the stone is in the diverticulum or stuck to the mucosa (11).
References


[8] Smith and O’Flynn, Papatsoris et al; Campbell’s Urology 10th ed.
