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Giant Vesical Calculus

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Abstract

Massive or giant vesical calculus is a rare entity in the recent urological practice. Vesical calculi are usually secondary to bladder outlet obstruction. These patients present with recurrent urinary tract infection, haematuria or with retention of urine.

CASE REPORT

A 35-year-old male presented with a one year history of neglected disuria, hesitancy, supra-pubic pain and intermittent hematuria. There was no history of passing stones or symptoms suggestive of hyperparathyroidism. On clinical examination, he was well built and nourished. His vital parameters were normal. Prostatic size was normal and a stony hard palpable lower abdominal mass was felt. Per urethral catheterisation was attempted but failed. Hb was 9.5 g / dl and Blood urea 14.2 mmol / litre , the serums calcium was normal. The urine showed numerous pus and red cells. A plain Radiograph of the pelvis revealed a large laminated smooth surfaced calculus in projection of the small pelvis and another right sided smaller density which has no relation with renal tract are visualized (Fig. 1). Abdominal Ultrasonography confirmed the diagnosis of the vesical calculus without evidence of hydronephrosis bilaterally. Both kidneys showed normal contrast excretion on intravenous urography. The bladder was opened extraperitoneally, when a smooth brownish yellow hard calculus was seen occupying the entire cavity of the urinary bladder. It was free from the bladder mucosa and weighed 420 gm (Fig, 2). The patient discharged in good condition 10 days postoperative. Chemical analysis of the stone revealed a mixed stone.

Figure 1

Figure 1 : Plain radiograph of pelvis showing a laminated radio opaque shadow

Figure 2

Figure 2 : The Giant Vesical Calculus Depicted in Vitro.

DISCUSSION

Giant vesical calculus weighing more than 100 g is a rare

entity [1]. Few reports are available recently in the English literature of giant vesical stones probably because of technical advances of diagnostic modalities. The largest recorded calculus weighing 6294 gm was reported by Arthure in 1953 [2] and this calculus was thought to have been formed in a bladder diverticulum. The calculus reported by Randall (1921) [3] weighed 1914 gm, that of Powers and Matflerd (1952) [4], 1410 gm, that of Dorsey (1952) [5], 455 gm and that of Wenger and Berry (1952) [6], 154 gm. Our case of 420 gm in weight is the largest Urinary bladder calculus reported in Libya until the present time. Urinary bladder calculi are usually secondary to lower urinary tract obstruction, few stones originally formed in kidneys or ureters and pass into the bladder [7]. The importance of lower urinary tract obstruction in the formation of vesical calculi has been emphasized [7], this was not compatible with our case which shows large size, smooth surfaced, calculus in young patient without preexisting outlet obstruction. Giant bladder calculi are less common in women [8], this is probably because outlet obstruction is much less commonly encountered in females. Rarer causes as trauma, catheterisation, neurogenic bladder, foreign body have also been reported. Bladder stones are reported around a foreign body, sutures, catheters or other objects introduced in the bladder. Pomerantz et al have reported massive or giant vesical calculus formed around arterial graft, which was incorporated in the bladder [8].

Majority compositions of the vesical calculi include triple phosphate, calcium carbonate, and calcium oxalate. Becher et al have reported massive or giant vesical calculus of 235 gram with uric acid as the major component with asymmetrical calcium oxalate [1]. Patients with giant vesical calculus usually present with recurrent urinary tract infection, azotaemia and retention of urine. Our patient was young male of 35 year old sailor, the calculus was of smooth surface so it can reaches enormous size before causing substantial symptoms which were already neglected by the patient.

Open surgery has been the best recommended modality for large stones [9]. In small or moderate calculi, endosurgical procedures as optical mechanical cystolithotripsy have an added advantage as it can be combined with corrective procedure for 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 diverculum or stuck to the mucosa [11].

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