Giant Vesical Calculus: A Case Report and Review of Literature

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Abstract: Giant vesical calculus is defined as a vesical calculus weighing more than 100 grams . We report a case of an asymptomatic vesical calculus weighing 380 grams in a male patient without any predisposing factors, diagnosed incidentally on radiological examination, and treated by surgery, along with a review of the literature of giant vesical calculi. [Hrishikesh P SEAJCRR 2017; 7(43):30-32]

Key Words:benign prostatic hypertrophy, bladder outlet obstruction, Giant vesical calculi, urethral stricture, urinary stasis.

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Introduction: Urinary bladder calculi accounts for 5 percent of urinary calculi. However, giant vesical calculus weighing more than 100 g is a rare entity [1]. Very few reports are available in the English literature having weight of the stone more than 100 gm [1]. Asymptomatic presentation of giant vesical calculus is even rare. The largest vesical calculus reported by Arthure et al weighed 6294 gram [2].

The diagnosis, often incidental, is made on the basis of common imaging modalities like x-rays or ultrasonography. Open surgery is recommended for the removal of giant vesical calculus. [3]

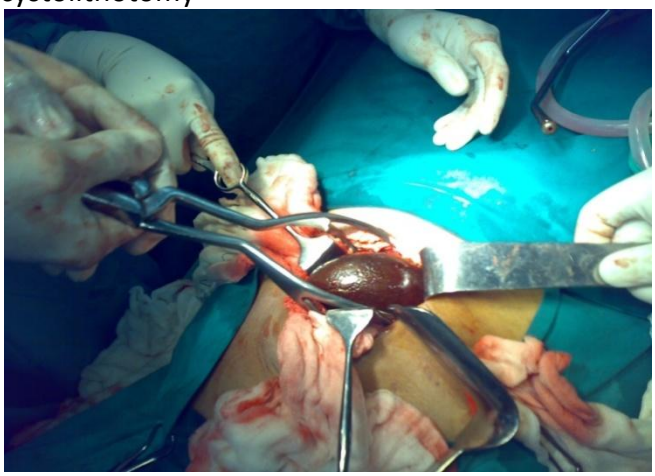
CASE HISTORY

A 48 years old male patient presented to the orthopedic department for left hip pain since two years. Incidental X-ray pelvis with both hips for orthopedic cause showed an opaque shadow in pelvis suggestive of vesical calculus [Figure 1].

Figure 1: Plain radiograph of pelvis showing the giant vesical calculus.

Ultra-sonography was done which showed a large vesical calculus without bladder trabeculation or any features of cystitis. Detailed history was taken but patient did not report any lower urinary symptom. The patient has past history of fracture neck femur left side 14 years back which was treated with open reduction and internal fixation. After routine workup, opensuprapubic cystolithotomy was performed and a 10 x 8 x 5 cm large vesical calculus was removed [Figure 2].

Figure 2: Intra-operative picture of supra-pubic cystolithotomy



It had a smooth surface and the cut surface showed lamellations [Fig.3]. No foreign body was found within the calculi. Chemical analysis showed that the calculus was composed of calcium oxalate. Intraoperatively the bladder had no features of cystitis or trabeculation. Postoperative period was uneventful and the

suprapubic catheter was removed on the fourth postoperative day.

Figure 3:Cut section of the calculus showing lamellations characteristic of oxalate stones

DISCUSSION

Bladder calculi have beleaguered man for thousands of years, as documented by the ancient Greeks and discovered by an archaeologist in a 7000-year-old Egyptian skeleton. Vesical calculi though commonly found, giant vesical calculi are rare. Vesical calculi usually occur because of obstruction, infection, or foreign bodies [4] like sutures, catheters or other objects introduced in the bladder. Prolonged Foley catheterization or another foreign body may also serve as a source of infection or nidus of crystallization[5,6]. Giant vesicalcalculi during pregnancy is also reported, associated with several potential obstetric complications.[7]

These giant calculi are thought to develop from a single ureteric calculus or from the nidus of infected material with a progressive layering of the calcified matrix. Lewi et al have reported formation of a large vesical calculus as a result of coalescence of two or more calculi [8].

Patients may or may not complain of any symptoms in form of pain or lower urinary tract symptoms– depending on the underlying cause as well as the severity of disease. Obstruction caused by a vesical calculus can lead to further infection, urosepsis, and, although rare, bladder perforation, hydronephrosis, and acute renal failure.Bladder stones may often be multilayered, as in the case of this patient.

Studies have shown that the stone nucleus often does not contain struvite or calcium phosphate, whereas subsequent concentric layers contain large amounts of these substances. This indicates that infection may not be the inciting factor in stone formation but may play a major role in further stone crystallization.

Available treatment options for vesical calculi 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.

However, Open surgery has been the best-recommendedmodality for large stones.[3, 9]. In our case, dueto its huge size and adhesions with mucosa of urinary bladder the stone had to be taken outwith a cystolithotomy.

Giant bladder calculi are rare in modern urologic practice. This may be explained in tropical countries like India with various quacks who claim to dissolve the stone with medicine and keep patients in dark for long, enhancing their morbidity. Secondly many patients have fear of surgery thereby leading to a considerable delay in the treatment and increase of stone size, which adds difficulty to patient as well as surgeon. [10]

CONCLUSION

The conclusion of this case highlights certain facts. An unusual case of such a large vesical calculus in a totally asymptomatic patient admitted for unrelated cause.

To make general practitioners sensitive to these early signs of the disease in order to provide their patients a precocious and better care. General practitioners should not only insist but force such patients to surgeons at earliest.

Modern modalities like lithotripsy are likely to fail in such giant stones. Highlighting that the treatment option of open surgery still has a role to play in selected cases of urinary calculus disease.

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