UIJ UroToday International Journal®

www.urotodayinternationaljournal.com
Volume 4 - October 2011

Squamous Cell Carcinoma of the Urinary Bladder Associated with a Big Bladder Stone in a 55-Year-Old Female: A Case Report

Hamdy AbdelMawla Aboutaleb,[1] Atef Badawy,[1] Ahmed Gamal-eldin,[1] Mohammed Badr-eldin[1]
[1]Department of Urology, Minoufiya University Hospital, Shebin Elkom, Minoufiya, Egypt
Submitted April 14, 2011 - Accepted for Publication June 13, 2011

ABSTRACT

A 55-year-old-female Egyptian presented to us with severe dysuria. Laboratory investigations showed high serum creatinine of 3.4 mg/dl. A urinalysis revealed pyuria and hematuria. Liver enzymes were very high due to viral hepatitis and the daily usage of NSAIDs. A KUB showed a large, lamellated, radio-opaque shadow in the pelvis. A non-contrast CT revealed a contracted bladder with diffuse thickening of the bladder wall, and a single, large urinary bladder stone 5 x 6 cm, bilateral marked hydronephrosis, and hepatomegaly. A VCUG showed left reflux grade IV. A cystoscopy confirmed the presence of the stone with multiple biopsies from the erythematous bladder wall. A histopathology showed invasive squamous cell carcinoma. A right percutaneous nephrostomy was inserted with a urethral catheter. There was conservative management for liver disease till the liver functions returned to normal. A radical cystectomy and ileal conduit urinary diversion was performed successfully. The association between a large, neglected bladder stone and SCC should be considered.

KEYWORDS: Bladder stone; Squamous cell carcinoma

CORRESPONDENCE: Hamdy AbdelMawla Aboutaleb, Department of Urology, Minoufiya University Hospital, Shebin Elkom, Minoufiya, Egypt (hamdyabotaleb@yahoo.com)

CITATION: *UroToday Int J*. 2011 Oct;4(5):art 67. doi:10.3834/uij.1944-5784.2011.10.8

Abbreviations and Acronyms
SCC, squamous cell carcinoma
CT, computerized tomography
KUB, kidney ureter bladder X-ray
VCUG, voiding cystourography
NSAIDs, Nonsteroidal anti-inflammatory drugs

INTRODUCTION

Squamous cell carcinoma (SCC) of the urinary bladder is the most common cancer in Egypt [1]. It is the most common in the seventh decade of life, and more in males than females. [2]. In general, risk factors for SCC of the bladder include those situations that commonly induce squamous metaplasia, a process that results from chronic irritation of the urothelium, such as bladder stones.

The incidence of bladder stones is 2 to 6% of urinary stones. Males are more affected than females. Most bladder stones are made of calcium oxalate. These are more often single than multiple stones. They are associated with outlet obstruction of the bladder due to BPH or lazy bladder in women. We present a female patient with a huge, neglected bladder stone associated with SCC of the urinary bladder.

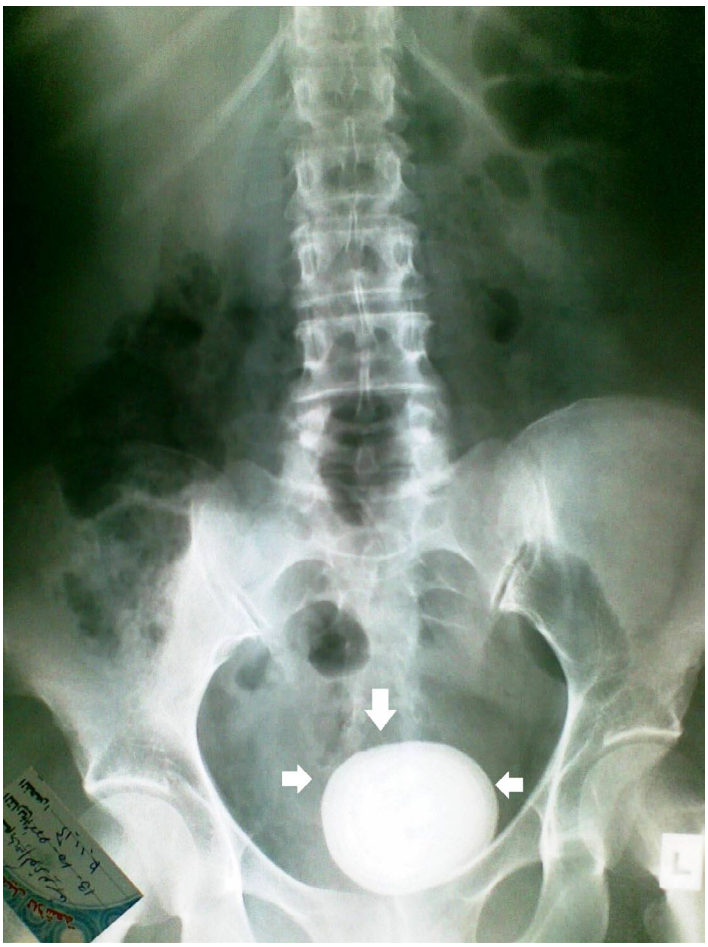
CASE REPORT

A 55-year-old female patient from Egypt was presented to us with severe dysuria. Her past medical history was unremarkable for hypertension, diabetes mellitus, and coronary artery disease. She had no family history of malignancy. She is known to use NSAIDs as a daily analgesic for headaches. There is a history of

UIJ UroToday International Journal®
case report

Squamous Cell Carcinoma of the Urinary Bladder Associated with a Big Bladder Stone in a 55-Year-Old Female: A Case Report

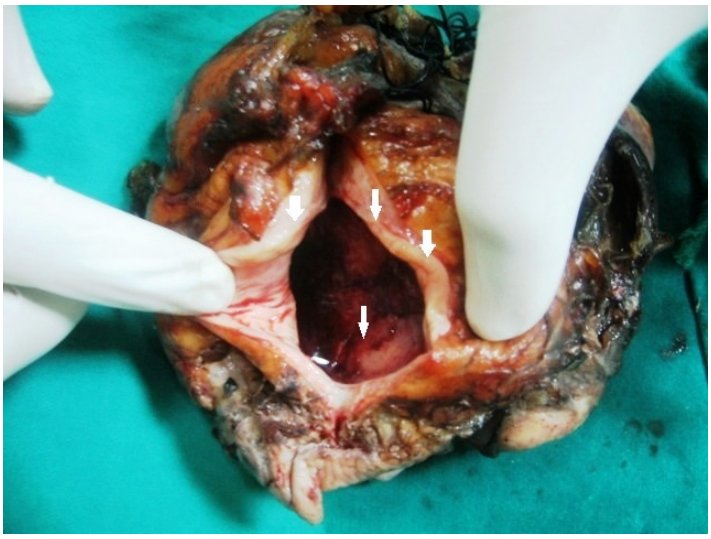
Figure 1. KUB X-ray shows a big radio-opaque shadow in the pelvis of a 55-year-old female patient.
doi: 10.3834/uij.1944-5784.2011.10.8f1



schistosomiasis and she received medical treatment a long time ago. Her initial laboratory investigations revealed a high serum creatinine of 3.4 mg/dl. Urinalysis revealed pyuria, microscopic hematuria, mild proteinuria, and a culture grew Escherichia coli. Her liver enzymes were AST: 655 U/L and ALT: 372 U/L. Her total bilirubin was 2.4 mg/dl and her direct bilirubin was 1.9 mg/dl. Her ALP was 973 U/L and her GGT was 84 U/L. She was found to have hepatitis B and C. An abdominopelvic ultrasound and a non-contrast CT revealed a contracted bladder associated with diffuse thickening of the bladder wall, a large urinary bladder stone of 5 x 6 cm, a bilateral marked hydronephrosis, and hepatomegaly. A KUB revealed a large, lamellated radio-opaque shadow at the pelvis (Figure 1). VCUG revealed left reflux grade IV. Cystoscopy confirmed the presence of the stone with underlying multiple erythematous bladder wall

Figure 2A. This figure shows the stone after removal and its size of 5 x 6 cm.
doi: 10.3834/uij.1944-5784.2011.10.8f2a

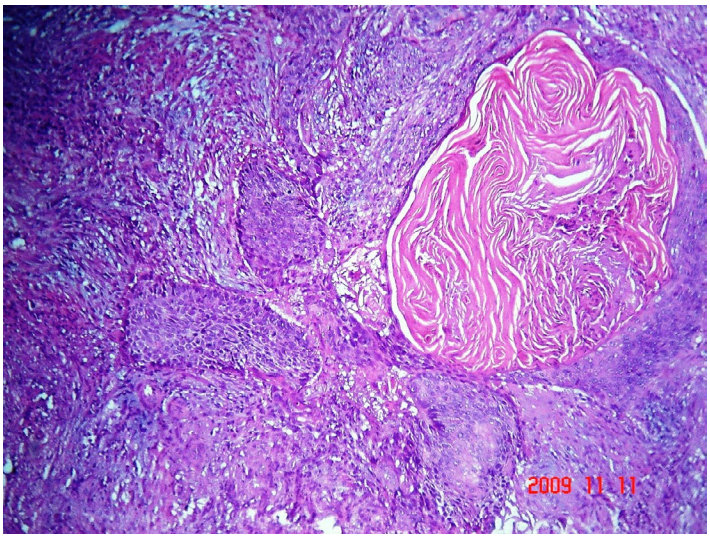
Figure 2B. Surgical specimen of urinary bladder shows the thickness of the wall (see arrows).
doi: 10.3834/uij.1944-5784.2011.10.8f2b



lesions. Multiple biopsies and histopathological examination revealed invasive SCC grade II (Figure 3). A right percutaneous nephrostomy was inserted with a urethral catheter. Creatinine improved to 1.7 mg/dl and liver functions returned to normal levels after supportive treatment. A radical cystectomy (Figure 2A and 2B) and ileal conduit urinary diversion were done successfully.

UroToday International Journal®
case report

Figure 3. Section of bladder mass showing squamous cell carcinoma of the urinary bladder (HE staining, original magnification × 40).
doi: 10.3834/uij.1944-5784.2011.10.8f3



DISCUSSION

An incidence of SCC in the United States is only 3 to 7% of bladder cancers and 1% in England, but up to 75% in Egypt where schistosomiasis is endemic [3]. SCC is usually related to chronic infection, bladder stones, and chronic indwelling catheters. Almost all SCCs are advanced and muscle-invasive at the time of diagnosis. SCCs of the bladder have an unfavorable prognosis due to a local, advanced stage at the time of presentation [4].

In Egypt, bladder cancer has been the most common cancer during the past 50 years. Interestingly, SCC is the most common histopathological type in Egypt, constituting 59 to 81% of reported bladder cancers between 1960 and 1980. Chronic bladder infection with schistosomiasis has been the most important risk factor in Egypt, in contrast to smoking and occupational exposures in Europe [1]. Interestingly, our patient has been exposed to schistosomiasis, recurrent urinary tract infections, and a bladder stone that developed SCC. It is not clear to us whether bladder stones and recurrent UTIs or schistosomiasis caused or accelerated the development of SCC in this patient, but it may have masked symptoms of a serious bladder disease. Carcinoma of the bladder has been reported in association with recurrent UTIs and long-term catheterization [5]. A few Japanese reports mention the direct association with bladder stones [6]. To our knowledge, there is a shortage in English reports throughout our search in PubMed. The association with stones and chronic UTIs suggest that it may be a response to continued inflammation and irritation of the bladder that is probably a predisposing factor for metaplasia and SCC transformation in the urinary bladder.

The causes of bladder stones are not completely understood. Stones are more common in men and rare in children and women. Diet and fluid intake appear to be important factors. Stones seem to be more common in hot climates and during summer months. There is also a strong association with poverty. There is an association between infection and triple phosphate stones, which may be single, large stones in the presenting case because of the presence of magnesium, ammonia, and phosphate. This type of stone is usually associated with chronic infection in the bladder and may grow very large. People with bladder stones sometimes have no symptoms and that may explain why patients wait until stones reach large sizes. More often, however, they will have obstructive symptoms. Large, single stones may lead to an infection, bleeding, or even painful filling of the bladder and continuous irritation. The relationship between bladder stones and SCC should be discussed.

The treatment of clinically localized bladder SCC is usually surgical because of resistance to chemotherapy and radiation, similar to SCC of other sites. The prognosis for patients with bladder SCC is poor, and most die from their disease within 3 years after diagnosis. The reported 5-year survival rate is 30 to 50%. Death is usually due to local progression to the bladder neck or ureters, causing obstruction and subsequent renal failure. Distant metastases are rare. The presenting case had viral hepatitis associated with SCC of the urinary bladder. Moreover, there was vesicoureteral reflux on the left side due to the small capacity of the bladder with increased intravesical pressure and right marked hydronephrosis due to ureteral obstruction. A urethral foley catheter and right percutanuous nephrostomy tube improved the renal functions. A supportive treatment for the liver improved its condition and surgery was performed successfully. Finally, we concluded that SCC of the urinary bladder is common in Egypt. Schistosomiasis and bladder stones are well known predisposing factors. The association between a large neglected bladder stone and SCC should be considered and excluded before proceeding to bladder stone surgery.

REFERENCES

1. Felix AS, Soliman AS , Khaled H, et al. The changing patterns of bladder cancer in Egypt over the past 26 years. *Cancer Causes Control*. 2008;19:421–429. PubMed ; CrossRef

2. Kodama K, Mizuno T, Imahori T, Ida M, Matsubara F. Concurrent diagnosis of urothelial carcinoma and squamous cell carcinoma of the bladder in a patient with a vesicorectal fistula from invasive rectal cancer. *Int J Urol*. 2006;13:296–298. PubMed ; CrossRef

3. Messing EM. Urothelial tumors of the urinary tract. In: Walsh PC, Retik AB, Vaughan ED, et al., eds. *Campbell's Urology*. 8th ed. Philadelphia, Pa: Elsevier Science; 2002:2732-2765.

4. Shaaban AA, Orkubi SA, Said MT, Yousef B, Abomelha MS. Squamous cell carcinoma of the urinary bladder. *Ann Saudi Med*. 1997;17(1):115–119. PubMed

5. Delnay KM, Stonehill WH, Goldman H, Jukkola AF, Dmochowski RR. Bladder histological changes associated with chronic indwelling urinary catheter. *J Urol*. 1999;161:1106–1109. PubMed

6. Hirata N, Maruyama Y, Tanaka N, Hirayama A, Samma S, Ozono S, Hirao Y, Okajima E, Hiramatsu T, Hirao K. A case of squamous cell carcinoma of the urinary bladder associated with bladder calculi. *Hinyokika Kiyo*. 1991;37(1):77-81. PubMed