Urol Res (2007) 35:161–163
DOI 10.1007/s00240-007-0094-4

CASE REPORT

Vesicocutaneous fistula caused by giant bladder calculus

Yoshitomo Kobori · Kazuyoshi Shigehara · Toshiyasu Amano · Katsuro Takemae

Received: 11 January 2007 / Accepted: 5 April 2007 / Published online: 25 April 2007

Abstract A rare case of giant bladder calculus presenting with vesicocutaneous fistula is described. A 62-year-old woman presented with dysuria and ulcer of the hypogastric wall. Urine drained through the ulcer. Both X-ray and computed tomography (CT) of the abdomen showed a giant bladder calculus with vesicocutaneous fistula. We performed cystolithotomy followed by closure of the fistula. The calculus measured 95 × 60 × 55 mm and weighed 350 g. Worldwide, it is the second reported case of vesicocutaneous fistula caused by giant bladder calculus.

Keywords Bladder calculus · Urolithiasis · Vesicocutaneous fistula

Introduction

Bladder calculus is a common disease and accounts for 5% of urinary calculi. However, vesicocutaneous fistula is a very rare complication of bladder calculus and only one case has been previously reported. We report a second case of vesicocutaneous fistula caused by a giant bladder calculus.

Case report

A 62-year-old woman came to our hospital complaining of dysuria and an ulcer of the hypogastric wall (Fig. 1). She had a past history of ovariectomy for benign ovarian tumor 20 years earlier and had dysuria for the past few years. However, she did not have a checkup in the hospital, because she did not feel pain. Urine leaked through the ulcer, which was diagnosed as vesicocutaneous fistula. Laboratory data demonstrated inflammation (C-reactive protein, 2.08 mg/dl; normal < 0.4 mg/dl), but other blood findings were within normal limits. Urine microscopy showed pyuria and culture yielded *Escherichia coli*. X-ray of the abdomen demonstrated massive bladder-stone measuring 100 × 60 mm (Fig. 2). Abdominal computed tomography (CT) showed that the stone occupied the entire bladder (Fig. 3). There was no evidence of urachal infection on CT. Ultrasonography did not detect any abnormality of the kidney. Cystolithotomy was performed, followed by closure of the vesicocutaneous fistula. Because it was her second laparotomy, there were abundant adhesions affecting the pelvic wall and bowels. The extirpated stone weighed 350 g, and measured 95 × 60 × 55 mm (Fig. 4). The stone was composed of magnesium ammonium phosphate. Postoperatively, the fistula was successfully closed, and the urinary spillover disappeared. She needed intermittent catheterization after the operation because she had much residual urine and a low average flow rate.

Discussion

Vesicocutaneous fistula with bladder calculus is rare, and only one case has previously been reported in the literature [1]. Due to the strength of the musculus rectus abdominis between the bladder and skin, it is difficult for a fistula to form in that region. In our case, weakening of the anterior abdominal wall and bladder must have been related to the previous surgery 20 years earlier. She belonged to poor socioeconomic strata and the problem was compounded by

Y. Kobori (✉) · K. Shigehara · T. Amano · K. Takemae
Department of Urology,
Nagano Red Cross Hospital,
Nagano, Japan
e-mail: bori2555@mail.goo.ne.jp; kobori@med.kanazawa-u.ac.jp

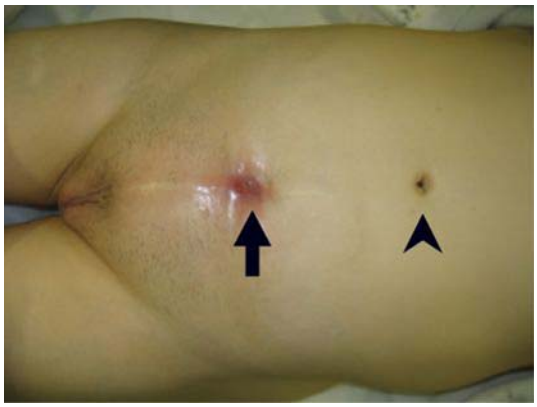

Fig. 1 Clinical photograph showing vesicocutaneous fistula (*arrow*) and a navel (*arrowhead*)

Fig. 2 Plain X-ray showing a giant bladder calculus

Fig. 3 CT (**a**) showing that the stone occupied the entire bladder. CT (**b**) showing the vesicocutaneous fistula

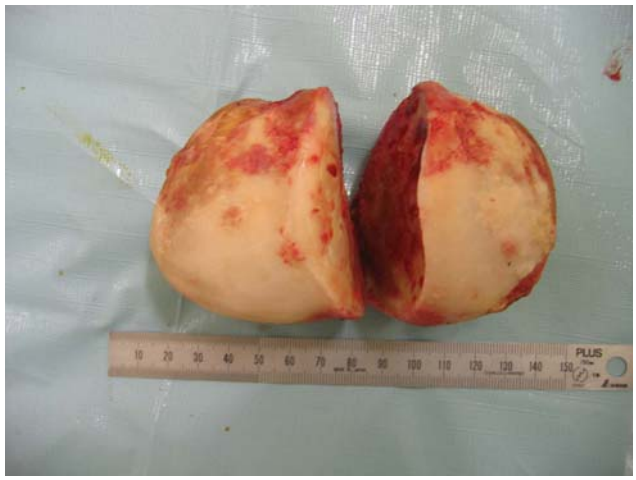

Fig. 4 The removed stone measured 95 × 60 × 55 mm and weighed 350 g

a lack of subjective symptoms and ignorance. These factors led to a delay in seeking medical treatment. The presence of calculus and chronic cystitis induced erosion for a long time, and the fistula was formed [2].

Bladder calculus affects men predominantly and accounts for 5% of urinary calculus [3]. Bladder calculus weighing more than 100 g is rare in the Western world. Even rarer is the occurrence of bladder calculus in females, due to the lower incidence of obstructive pathology in females, the most common causes being recurrent cystitis, bladder diverticula, intravesical foreign bodies, neurogenic bladder and hyperparathyroidism [4]. In a similar way, rare cases of vesicovaginal fistula with bladder calculus, vesicocutaneous fistula with inguinoscrotal hernia and infectious urachal cyst have been reported [5]. It is thought that when a calculus enlarges to a certain size, that bladder irritation is relieved as mobility of the calculus within the bladder decreases [6]. In our case, the bladder calculus was left unattended for a prolonged period due to the absence of bladder irritation, which allowed the calculus to become gigantic.

References

1. Hanif GM, Sameer PJ, Kirtipal NV, Hemang B (1992) Giant vesical calculus presenting as vesicocutaneous fistula. Urol Int 48:115

2. Dalela D, Goel A, Shakhwar SN, Singh KM (2003) Vesical calculi with unrepaired vesicovaginal fistula: a clinical appraisal of uncommon association. J Urol 170:2206
3. Schwartz BF, Stoller ML (2000) The vesical calculus. Urol Clin North Am 27:333
4. Di Tonno F, Forte M, Guidoni E, Cavazzana A, Barbui P (1988) A giant bladder stone. Br J Urol 62:90
5. Ramaswamy M, Yvonne B, Shalom JS, Gerald NC (2003) Vesicocutaneous fistula: an unusual complication of inguinoscrotal hernia. Int J Urol 10:667
6. Williams JP, Mayo ME, Harrison NW (1977) Massive bladder stone. Br J Urol 49:51