

THE MANUAL DELIVERY OF BLADDER STONE

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The bladder stones were bimanually removed in 2 female paraplegics whose bladder capacity was small owing to the reflex bladder. The technique is easy and safe and can be performed without any sophisticated instruments.

INTRODUCTION

Celsus, in the first century, described the lateral lithotomy through the perineum in detail²⁾. In the present century the litholapaxy is indicated for the small stone in the bladder and the suprapubic cystolithotomy for the large one. However, in the reflex neurogenic bladder is the litholapaxy sometimes difficult to perform because of the small bladder capacity. We have found that the bimanual extirpation of bladder stones was easy and safe to apply for the female paraplegics.

METHODS AND RESULTS

The presence of bladder stone was confirmed by a plain x-ray film and the cystoscope. After the bladder was emptied, 2 right fingers were placed in the dorsal aspect of bladder through the vaginal wall and the left hand over the suprapubic portion in a lithotomy position. Being felt and fixed bimanually, the stone was moved down close to the bladder neck and then pushed out gently by the intravaginal fingers. Urethral bleeding was not more than that encountered in the litholapaxy and easily controlled by the catheterization. No other complications were met.

Case 1. A 23-year-old female with T5 complete paraplegia was referred, caused by the tuberculous meningitis 4 years ago. Since then a Foley catheter had been indwelt and 2 stones were formed in her

bladder (Fig. 1). The litholapaxy was attempted in vain because the bladder capacity was so small that the stone could not be handled properly. One week later the cystometric study revealed the typical reflex bladder with a widely distensible urethra. Consequently the present technique was applied as a simple alternative.

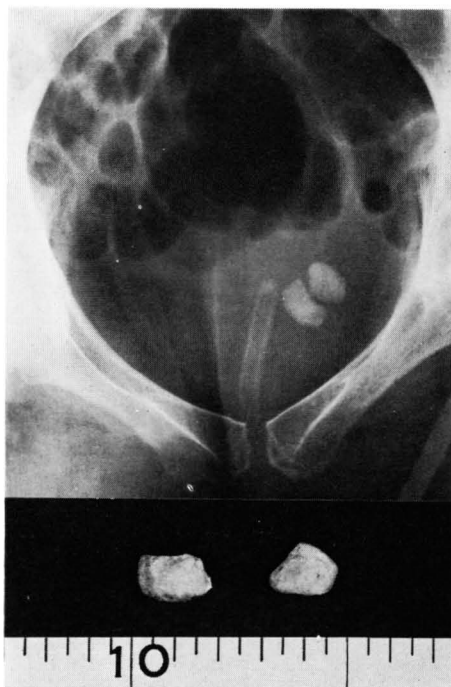


Fig. 1. Two bladder stones shown in the plain x-ray film. The size of stones; $18 \times 12 \times 6$ mm and $16 \times 13 \times 4$ mm. The composition; magnesium-phosphate.



Fig. 2. Five bladder stones and a broken IUD shown in the plain x-ray film. The diameter of the largest and smallest stones is $18 \times 14 \times 6$ mm and $8 \times 6 \times 5$ mm, respectively. The composition; calcium-phosphate and magnesium-ammonium-phosphate.

The stones were easily removed with little bleeding. The intermittent catheterization was instituted in conjunction with parasympatholytics followed by sacral alcoholization.

Case 2. A 64-year-old female has been in vegetative state and catheterized after a craniotomy for the acoustic neurinoma during the past 4 years. 5 stones were present in her bladder (Fig. 2). The first attempt of lithotripsy was interrupted by a sudden shock development. The second trial of removing stones through a dilated urethra with a bivalve speculum resulted in failure again because of the poor visualization. Finally the present method was successfully carried out on her bed; 3 stones were removed one day and the rest on the following day. The cystometric

study later demonstrated a modified reflex neurogenic bladder; the bladder tonus was normal up to 100ml, where water started to leak around the catheter.

DISCUSSION

The normal urethral caliber of adult females averaged 22F⁵⁾ with a rare exception of 120F reported by Borski and Mittemeyer¹⁾.

Our technique does not require any sophisticated instruments and is easy to perform. The rationale is that the urethra of female paraplegics is large and distensible^{3,4)} and that there is hyposthesia or anesthesia to pain at their genital region. The urethral caliber of our patients was later measured 50F and 75F, respectively. When the bladder capacity was found small due to reflex neurogenic bladder and/or contracted bladder by prolonged catheterization in female paraplegics, we believe, the present method will be recommended. It is thought that the bladder stone with the largest diameter of up to 20 to 25mm will be removed without any major complications. Urethral bleeding is controlled by an indwelling catheter 24 hours postoperatively. If the autonomic hyperreflexia occurred, alpha adrenergic blocker or ganglionic blocking agent should be administered.

REFERENCES

- 1) Borski, A. A. and Mittemeyer, B. T.: Urethral coitus, maximum urethral dilatation. *J. Urol.*, **105**: 400, 1971.
- 2) Butt, A. J.: Treatment of urinary lithiasis, p.16. Charles C. Thomas, Springfield, 1960.
- 3) Fowler, J. E., Jr.: Endoscopic suspension of the vesical neck in massive urethral dilatation. *J. Urol.*, **119**: 573, 1978.
- 4) Gottesman, J. E. and Flanagan, M. J.: Removal of bladder stones in females. *Urology*, **11**: 636, 1978.
- 5) Uehling, D. T.: The normal caliber of the adult female urethra. *J. Urol.*, **120**: 176, 1978.

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和文抄録

麻痺患者の用手的膀胱結石摘出

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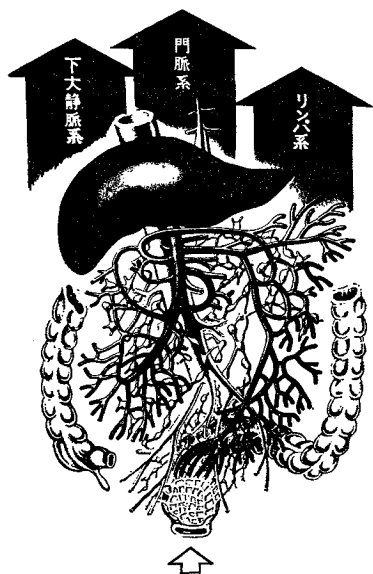
近 藤 厚 生 ・ 小 谷 俊 一

瀧 田 徹 ・ 寛 英 雄

膀胱結石を有した女性麻痺患者の2例を報告した。彼女らはいずれも反射性神経因性膀胱を示し、膀胱容量が小さいため、碎石用膀胱鏡による碎石術は失敗に帰した。そこで弛緩した尿道に着目し膣内と恥骨上より結石を手指ではさんだところ、結石は容易に尿道より摘出することができた。下半身麻痺患者で尿道経の大きい症例では、今回の手技が奏効するものと考え

る。

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