



Case Report

A Brunn's cyst as a cause of bladder outlet obstruction: a case report

Pises Insuan¹, Wimol Insuan²

¹Department of Surgery, ²Department of Radiology, Sukhothai Hospital, Sukhothai, Thailand

Keywords:

Bladder neck obstruction, Brunn's cyst

Abstract

A Brunn's cyst in the proximity of the bladder neck is a rare cause of bladder outlet obstruction. This case study concerns a 45-year-old male presenting with bladder outlet obstruction secondary to a Brunn's cyst. A provisional diagnosis of Brunn's cyst was based on ultrasonography, CT scan and cystoscopic examination which indicated a cystic lesion at the bladder neck. Transurethral resection of the cyst was performed with successful resolution of the obstructive voiding symptoms. The final diagnosis of this case based on the pathology is a Brunn's cyst.

Insight Urol 2021;42(2):169-72. doi: 10.52786/isu.a.40

Introduction

Bladder outlet obstruction in the elderly is frequently a result of enlargement of the prostate gland, but in younger men is usually caused by urethral stricture. Bladder outlet obstruction secondary to a Brunn's cyst is rare and was first described by Israel Franco in 1988.¹ Our objective in this study is to describe the clinical presentation, diagnosis, treatment and outcome of this rare case of bladder outlet obstruction secondary to a Brunn's cyst.

Case Report

A healthy 45-year-old presented with progression of obstructive voiding symptoms over a 3-month period. Symptoms included weakness of the urinary stream, hesitancy, abdominal straining, intermittency and sensation of incomplete

emptying. He had not experienced gross hematuria, urinary incontinence, nocturia, urinary tract infection or trauma at the perineum or pelvic organ. He went to a private clinic for an ultrasound of the KUB system which showed a cystic lesion at the bladder neck approximately 1.6 x 1.7 x 2.0 cm with bladder outlet obstruction (Figure 1), a Brunn's cyst was considered a possible diagnosis.

He went to hospital and cystoscopic examination was performed, which showed a normal anterior and prostatic urethra. There was a smooth mucosal bladder neck mass at 7 o'clock adjacent to the prostate gland (Figure 2). Both ureteric orifices presented as normal. Contrast-enhanced computed tomography (CT) of the lower abdomen showed a smoothly thin-walled cystic lesion at the right-side of the bladder neck separating from the ureterovesical junction that was only seen

Corresponding author: Pises Insuan

Address: Department of Surgery, Sukhothai Hospital, Jarodwithithong Road, Banklouty, Muang, Sukhothai 64000, Thailand

E-mail: piinsuan@gmail.com

Manuscript received: July 6, 2021

Revision received: August 23, 2021

Accepted after revision: September 9, 2021

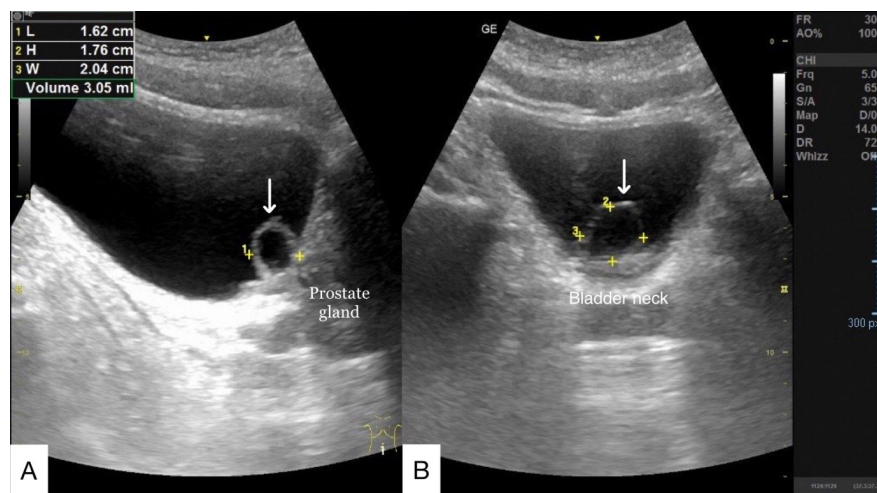


Figure 1. Bladder ultrasound showing cystic lesion at the bladder neck, size 1.62x1.76x2.04 cm (arrows). (A) Longitudinal view. (B) Transverse view.

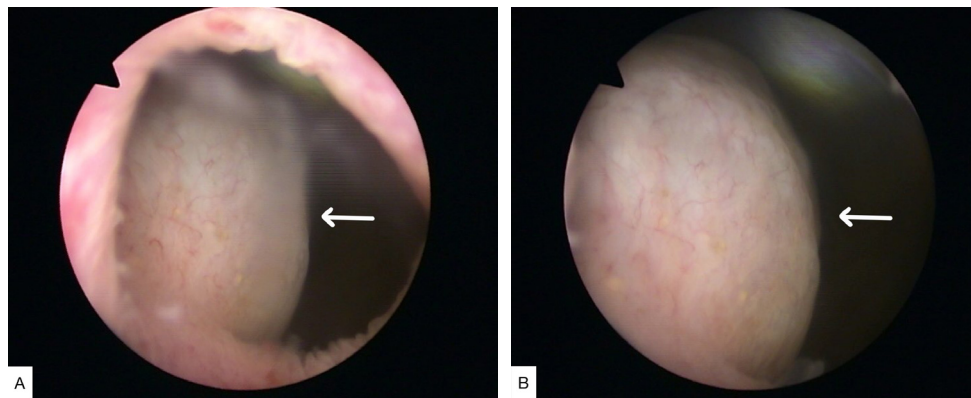


Figure 2. 2A and B. Cystoscopic view of bladder neck cystic mass (arrows indicating mass).

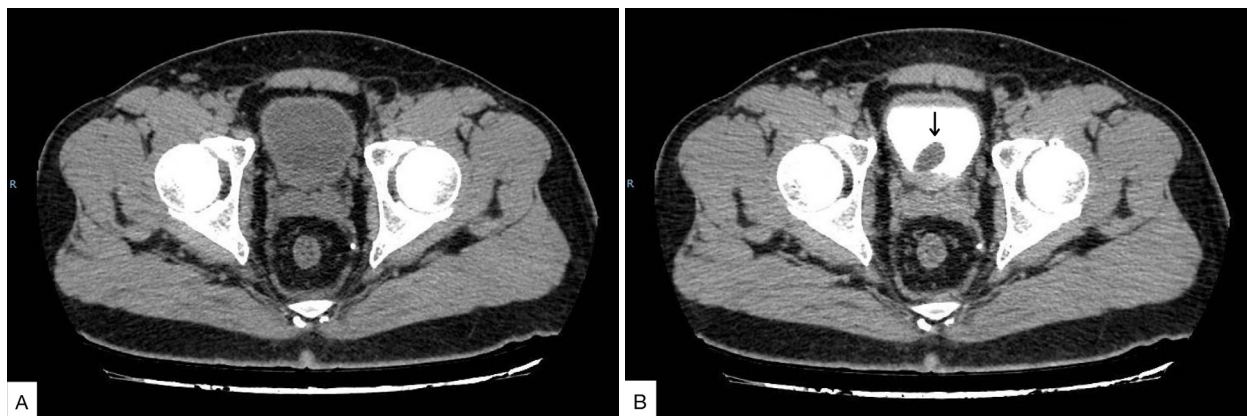


Figure 3. CT scans post contrast (A) and delayed phase (B) show Brunn's cyst (arrow).

on delayed phase (Figure 3). The prostate gland and seminal vesicles were normal. A provisional diagnosis of Brunn's cyst was based on the ultrasonography, CT scan and cystoscopic examination.

The patient was taken to the operation room for a transurethral resection of the bladder neck

cyst (Figure 4). At a follow-up appointment 3 weeks after surgery, his obstructive voiding symptoms were completely resolved. The pathology report showed a large submucosal cyst lined by a mixture of urothelial and columnar cells. The adjacent area displayed invagination of a sub-

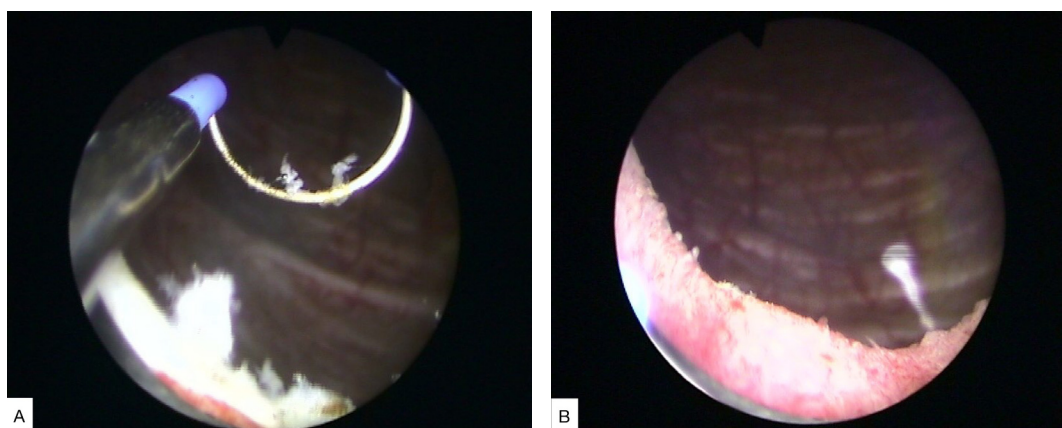


Figure 4. Transurethral resection of the bladder neck cyst. (A) Resecting and (B) Resected.

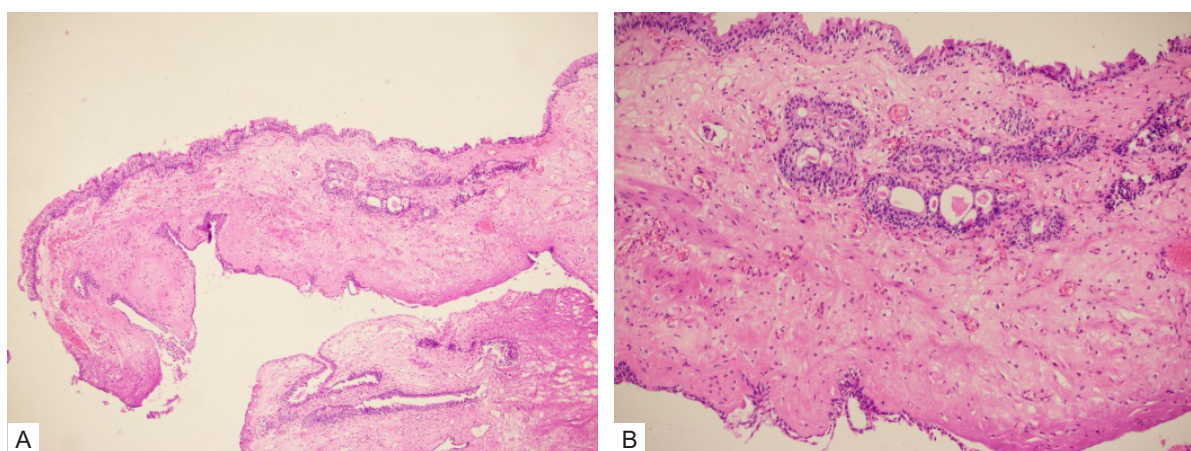


Figure 5. A and B. Final pathology findings consistent with Brunn's cyst.

mucosal Brunn's nest. The finding was consistent with Brunn's cyst (Figure 5). The final diagnosis of this case was a Brunn's cyst.

Discussion

Bladder outlet obstruction in the elderly is usually caused by enlargement of the prostate gland, but in younger men is caused by urethral stricture. Our patient had a rare cause of bladder outlet obstruction secondary to a Brunn's cyst at the bladder neck.¹⁻⁶

The differential diagnosis of a cystic lesion near the bladder neck is presence of an intraurethral prostatic cyst⁷ or ureterocele⁸, which can cause irritative or obstructive voiding symptoms. Transurethral resection of the cyst only at the base of the cyst is the primary mode of treatment in a young patient.⁷

The main diagnosis of Brunn's cyst is by ultrasonography and cystoscopic examination. Transurethral resection of the cystic lesion is the first line of treatment. This operation has resulted in a resolution of the symptoms.¹⁻⁶ Due to the

benign nature of the pathology in this case, routine surveillance in the absence of the symptoms would appear to be unnecessary⁵.

Conclusion

The presence of a Brunn's cyst is rare but should be kept in mind as a potential differential diagnosis in a patient with bladder outlet obstruction and a cystic lesion at the bladder neck. In this case transurethral resection of the cyst resulted in resolution of the obstructive voiding symptoms.

Conflict of Interest

The authors declare no conflict of interest.

References

1. Franco I, Eshghi M, Schutte H, Srinivasan K, Adonizio JC. Bladder neck obstruction secondary to Brunn's cyst. *J Urol* 1988;139:126-7.
2. Grimsby GM, Tyson MD, Salevitz B, Smith ML, Castle EP. Bladder outlet obstruction secondary to a Brunn's Cyst. *Curr Urol* 2012;6:50-2.

3. Sailo SL, Sailo L. Brunn's cyst: A rare cause of bladder outlet obstruction in a young man. *Urol J* 2015;12;2381.
4. Ilyas M, Shafi F, Choh N. Brunn's cyst: A rare cause of lower urinary tract symptom. *Indian J Urol* 2018; 34:231-2.
5. Ren R, McLarty R, Bach P. Images-A rare case of Brunn's cyst causing obstructive lower urinary tract symptoms in a young male. *Can Urol Assoc J* 2020;14:E227.
6. Lindner AK, Schachtner G, Aigner F, Biggel S, Horninger W, Pichler R. Brunn's cyst introducing persistent lower urinary tract symptoms in a young man: A case report. *J Endourol Case Rep* 2019;5: 171-3.
7. Chang SG, Hwang IC, Lee JH, Park YK, Lim JW. Infravesical obstruction due to benign intraurethral prostatic cyst. *J Korean Med Sci* 2003;18:125-6.
8. Jitkarnka U, Tonvichien L. The outcome of ureterocele management at Queen Sirikit National Institute of Child Health. *Thai J Urol* 2005;26:12-8.