

Prostatic-type polyp located in the bladder of an adolescent: A case report and overview

Journal of International Medical Research

2019, Vol. 47(4) 1787–1792

© The Author(s) 2019

Article reuse guidelines:

sagepub.com/journals-permissions

DOI: 10.1177/0300060519828122

journals.sagepub.com/home/imr

Hejia Zhu¹, Yiwei Lin¹, Bo Wang²,
Baihua Shen¹ and Liping Xie¹ 

Abstract

Prostatic-type polyps are uncommon lesions in the urinary tract. They are sometimes found in the lower urinary tract, particularly on the posterior urethra, but are rarely found in the bladder. We report a case of 15-year-old boy who presented with dysuria. Routine ultrasonography showed a mass in the bladder arising near the internal orifice of urethra. Further inspection with cystoscopy followed by transurethral resection and pathology confirmed the lesion to be a prostatic-type polyp. An overview of other similar case studies showed that the pathogenesis of this condition is controversial, haematuria and dysuria are common clinical symptoms and endoscopic transurethral resection is the best treatment option. Since the polyp is benign, recurrence and progression of this disorder is unlikely to occur.

Keywords

Prostatic-type polyp, bladder, ectopic prostatic tissue

Date received: 27 September 2018; accepted: 3 January 2019

Introduction

Prostatic-type epithelial polyps are unusual, benign lesions found in the urinary tract system.¹ The lesions were first described approximately 100 years ago² and are known by several synonyms including aberrant prostatic tissue, adenomatous polyps, benign villous polyps of the urethra and papillary adenoma of prostatic urethra.³ Most commonly, the polyps grow on the posterior urethra and are seldomly found

¹Department of Urology, The First Affiliated Hospital of College of Medicine, Zhejiang University, Hangzhou, China

²Department of Pathology, The First Affiliated Hospital of College of Medicine, Zhejiang University, Hangzhou, China

Corresponding author:

Liping Xie, Department of Urology, The First Affiliated Hospital, School of Medicine, Zhejiang University, Qingchun Road 79, Hangzhou 310003, Zhejiang Province, China.

Email: xielp@zju.edu.cn



in the bladder.⁴ We report here on a case of a 15-year-old adolescent boy who presented with dysuria. Imaging and pathology studies confirmed the presence of a polypoid lesion in the bladder arising at the internal orifice of urethra. The lesion was confirmed to be a prostatic-type polyp. Other similar case reports were identified and commonalities discussed.

Case report

The patient was a 15-year-old adolescent boy who presented to our institution with a

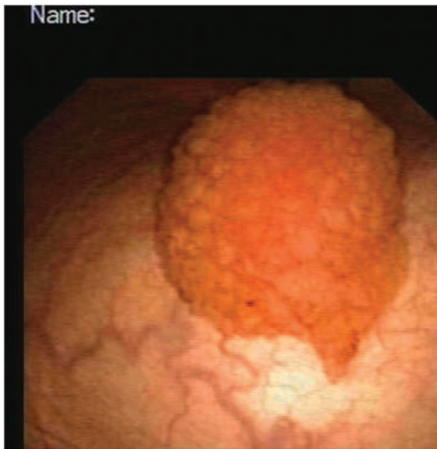


Figure 1. Cystoscopy results showed a spherical mass with a board pedicle at the bladder neck.

six-month history of dysuria. The patient complained of voiding difficulties which had progressively worsened and medical history showed no obvious causes. Initially, the patient's main symptoms were sudden interruption on urination and prolonged micturition time and no haematuria or dysuria. The patient underwent routine examinations at the hospital. Ultrasonography showed the presence of a mass in the bladder arising near the internal orifice of urethra, 1.4 cm × 1.3 cm in size with clearly defined boundaries. Doppler ultrasound delineated the blood flow inside the tumour. Cystoscopy confirmed a large mass at the bladder neck at the 1 o'clock position attached with a broad pedicle (Figure 1).

The patient had no history of smoking or previous exposure to toxic chemicals or drugs and no family history of cancer. In addition, his physical examination was unremarkable. Transurethral resection was performed successfully; there were no post-operative complications and the voiding dysfunction abated. Pathology of the mass showed polypoidal lesions of a papillary structure covering most of the prostatic ductal epithelium (Figure 2a). Immunohistochemical staining was positive for prostate specific antigen (PSA) and confirmed that the mass originated from the prostate and not from the bladder (Figure 2b).

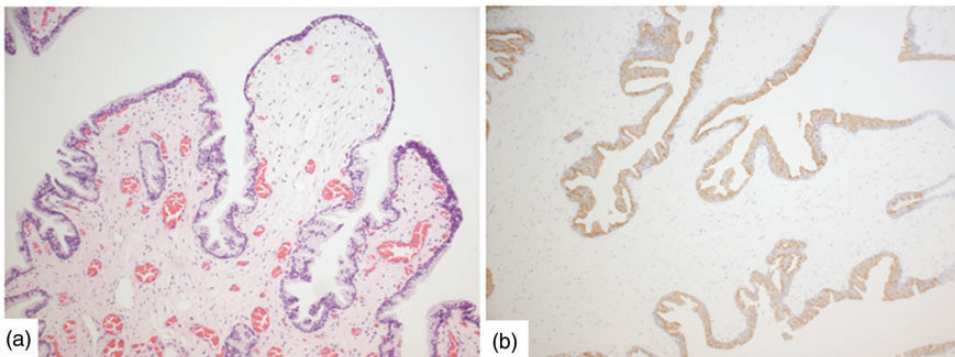


Figure 2. (a) Histological examination showing fibrovascular core covered by a prostatic type epithelium (HE stain, 100X) (b) Positive staining of the epithelium for prostate specific antigen (HE stain, 100X).

Table 1. Overview of case reports of prostatic-type polyps located in the bladder.

Author/Year	No.	Age (years)	Site	Presentation	Procedure	Recurrence
Chan et al, 1987 ⁶	10	39-71	Trigone*3 Neck*4 Body*3	Haematuria *8 Dysuria*2	na	na
Rubin et al. 1981 ⁷	1	26	Trigone	Haematuria	na	na
Klein & Rosenberg, 1984 ⁸	1	20	Trigone	Haematuria	na	na
Lubin et al, 1984 ⁹	1	46	Trigone	Asymptomatic	na	na
Remick & Kumar, 1984 ¹⁰	4	43-67	Trigone*3 Left ureteral orifice*1	Dysuria*1 Haematuria *1 Asymptomatic*2	Biopsy	na
Sánchez et al, 1989 ¹¹	1	59	Neck	N/A	na	Yes
Hansen et al, 1989 ¹²	1	73	Left lateral wall	Haematuria	Transurethral resection	No
Morey et al, 1989 ¹³	1	71	Bladder dome	Haematuria	na	na
Ishikawa et al, 1990 ¹⁴	1	58	Trigone	Haematuria	Transurethral resection	na
Richter et al, 1991 ¹⁵	1	76	Trigone	Dysuria and frequency	na	na
Yajima et al, 1993 ¹⁶	1	55	Inter-ureteric ridge	Haematuria	na	na
Anjum et al, 1997 ¹⁷	2	21 & 40	Trigone	Dysuria*1 Haematuria *1	Resection/fulguration	na
Yamamoto et al, 2001 ¹⁸	1	35	Trigone	Haematuria *1	Transurethral resection	na
Sánchez Merino et al, 2002 ¹⁹	1	58	Trigone	Asymptomatic	na	No
Dogra et al, 2002 ²⁰	1	25	Left posterolateral wall	Haematuria	Transurethral resection	No
Kumamoto & Ota, 2004 ²¹	1	73	Bladder	Asymptomatic	Transurethral resection	na
Bellezza et al, 2005 ²²	3	45-79	Left urethral orifice*1 Right lateral wall*1 Trigone*1	Haematuria*2 Asymptomatic*1	Transurethral resection	No
Oki et al, 2007 ²³	1	50	Verumontanum and trigone	Dysuria	Biopsy and transurethral coagulation	na
Eren et al, 2008 ²⁴	1	24	Trigone	Dysuria and voiding frequency	Transurethral resection	No
Kim et al, 2013 ²⁵	1	72	Bladder dome	Haematuria and dysuria	Transurethral resection	No
Ko et al, 2013 ²⁶	1	58	Trigone	Urinary frequency	Transurethral resection	No
Haroon & Uddin, 2014 ²⁷	2	47 & 52	Trigone	Haematuria and Urgency	Transurethral resection	No

na: data not available

The patient attends routine follow-up every three months and the most recent examinations show that he is recurrence-free, 18 months post-surgery. Written informed consent was obtained from the patient before publication of his medical record.

Discussion

Although the morphological and histopathological features of prostatic-type polyps have been defined,⁵ the histogenesis remains controversial and may vary according to the site of the polyp.⁶ Several unsubstantiated hypotheses have been proposed to explain their development and include, activation of embryonal cell nests, excessive hyperplasia of prostatic-type epithelium and metaplasia.³ While some reports suggest that the condition affects all age groups,^{1,4} others have found that the lesions are common in elderly patients with benign prostatic hyperplasia.⁶

Based on the size and location of the lesion, this disease may present a variety of clinical symptoms. From a review of 22 other case reports (Table 1), the most common site of prostatic-type polyps in the bladder was the trigone and the most frequent presenting symptoms were haematuria and dysuria⁶⁻²⁷ Interestingly, in several cases, the condition was asymptomatic. Radiologic imaging and cystoscopy were commonly used to detect the disease and the lesion usually presented as an isoechoic mass on ultrasound.²⁶ On cystoscopy, the polyp may present as a villous, papillary or frond-like mass which can be easily misdiagnosed as transitional cell carcinoma.⁴ Pathology analysis of the resected specimen combined with immunohistochemical staining for PSA are the gold standard procedures to confirm a final diagnosis.²⁸ Importantly, prostatic-type polyps in the urethra have to be carefully differentiated from prostatic ductal carcinoma which usually presents with nuclear atypia microscopically and often has a high proliferative

index; Ki-67 protein is a useful diagnostic tool for this differential analysis.⁴

From our overview of the literature, it appears that endoscopic transurethral resection is the most commonly used treatment option for prostatic-type polyps. Fulguration was used in only one of the 22 studies¹⁷ but it is an alternative treatment approach, as is partial cystectomy in certain situations.³ Since most of the prostatic-type epithelial polyps of the urinary tract are benign, the condition shows good prognosis.²⁵ Although, investigations into the progression of prostatic-type polyps into adenocarcinoma are limited,²⁹ it appears that recurrence and progression of the disease are unlikely.^{1,22} A limitation of this case report is that because the condition is rare, we were only able to study one patient. More data collection is needed for further studies.

In conclusion, among adolescent patients with suspected bladder cancer, prostatic-type polyposis should be included within the differential diagnosis. Endoscopic transurethral resection is effective in establishing the diagnosis and treatment of the condition and there appears to be good prognosis.

Declaration of conflicting interest

The authors declare that there are no conflicts of interest.

Funding

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

ORCID iD

Liping Xie  <http://orcid.org/0000-0002-3287-5536>

References

1. Anjum MI, Ahmed M, Shrotri N, et al. Benign polyps with prostatic-type

- epithelium of the urethra and the urinary bladder. *Int Urol Nephrol* 1997;29:313–317.
2. Randall A. A study of the benign polyps of the male urethra. *Surg Gynecol Obstet* 1913; 17: 548–549.
 3. Haroon S, Uddin N. Prostate type epithelial polyps of urogenital tract: a series of 3 cases and literature review. *Urology* 2014;83:535–538.
 4. Humphrey PA. Prostatic-type epithelial polyp of the urethra. *J Urol* 2015;193:2095–2096.
 5. Mostofi FK and Price EB Jr. Tumors of the male genital system. In: *Atlas of tumour pathology. 2nd series, fascicle 8*. Ed, Firminger HI, Washington DC: Armed Forces Institute of Pathology, 1973, pp.265–266.
 6. Chan JK, Chow TC and Tsui MS. Prostatic-type polyps of the lower urinary tract: three histogenetic types. *Histopathology* 1987; 8: 789–801.
 7. Rubin J, Khanna OP and Damjanov I. Adenomatous polyp of the bladder: rare cause of hematuria in young men. *J Urol* 1981; 4: 549–550.
 8. Klein HZ and Rosenberg ML. Ectopic prostatic tissue in bladder trigone. Distinctive cause of hematuria. *Urology* 1984; 1: 81–82.
 9. Lubin J, Mark TM and Wirtschafter AR. Papillomas of prostatic urethra with prostatic-type epithelium: report of eight cases. *Mt Sinai J Med* 1984; 2: 218–221.
 10. Remick DG Jr and Kumar NB. Benign polyps with prostatic-type epithelium of the urethra and the urinary bladder. A suggestion of histogenesis based on histologic and immunohistochemical studies. *Am J Surg Pathol* 1984; 11: 833–839.
 11. Sánchez Fernández de Sevilla MC, Esquerdo Mañez J and Morell Quadreny L. Recurrent adenomatous polyp of the bladder with prostatic type epithelium. *Actas Urol Esp* 1989; 4: 283–284.
 12. Hansen BJ, Christensen SW and Eldrup J. Prostatic-type polyp in the bladder. A case report. *APMIS* 1989; 7: 664–666.
 13. Morey AF, Kreder KJ, Wikert GA, et al. Ectopic prostate tissue at the bladder dome. *J Urol* 1989; 4: 942–943.
 14. Ishikawa J, Yasuno H, Higuchi A, et al. Benign polyp with prostatic-type epithelium of the urinary bladder: a case report. *Hinyokika Kyo* 1990; 12: 1463–1465.
 15. Richter S, Saghi N and Nissenkorn I. Supratrigonal ectopic prostate: case report and review of the literature. *Urol Int* 1991; 46: 96–98.
 16. Yajima I, Ogawa H, Yamaguchi K, et al. Ectopic prostatic tissue in the bladder. *Hinyokika Kyo* 1993; 8: 761–764.
 17. Anjum MI, Ahmed M, Shrotri N, et al. Benign polyps with prostatic-type epithelium of the urethra and the urinary bladder. *Int Urol Nephrol* 1997; 3: 313–317.
 18. Yamamoto Y, Oka N, Nishitani M, et al. Ectopic prostatic tissue in retrotrigone of the bladder: a case report. *Hinyokika Kyo* 2001; 7: 501–504.
 19. Sánchez Merino JM, Fernández Flores A, Gómez Cisneros SC, et al. Ectopic prostatic tissue in the bladder. *Actas Urol Esp* 2002; 5: 369–371.
 20. Dogra PN, Ansari MS, Khaitan A, et al. Ectopic prostate: an unusual bladder tumor. *Int Urol Nephrol* 2002; 4: 525–526.
 21. Kumamoto H and Ota M. A case of benign prostatic epithelial polyp in the urinary bladder. *Jpn J Clin Oncol* 2004; 58: 431–433. (abstract in English available at: https://www.researchgate.net/publication/289450023_A_case_of_benign_prostatic_epithelial_polyp_in_the_urinary_bladder)
 22. Bellezza G, Sidoni A and Cavaliere A. Ectopic prostatic tissue in the bladder. *Int J Urol* 2005; 12: 1066–1068.
 23. Oki M, Moriyama H, Yoshino T, et al. A case of prostatic-type polyps simultaneously occurred in the prostatic urethra and urinary bladder. *Jpn J Clin Oncol* 2007; 3: 249–251. (abstract in English available at: https://www.researchgate.net/publication/289449909_A_case_of_prostatic-type_polyps_simultaneously_occurred_in_the_prostatic_urethra_and_urinary_bladder)
 24. Eren F, Güzelsoy M, Eren B, et al. Ectopic prostate presenting as a mass in bladder. *Indian J Urol* 2008; 4: 564–565.
 25. Kim JH, Jeon YM and Song YS. Ectopic prostate tissue at the bladder dome presenting as a bladder tumor. *World J Mens Health* 2013; 2: 176–178.

26. Ko SY, Kim YJ, Park HS, et al. Sonographic findings of ectopic prostatic tissue in the bladder: a case report and review of the literature. *Clin Imaging* 2013; 4: 778–779.
27. Haroon S and Uddin N. Prostate type epithelial polyps of urogenital tract: a series of 3 cases and literature review. *Urology* 2014; 3: 535–538.
28. Ewing R, Harnden-Mayor P, Mason MK, et al. Extra-urethral ectopic prostate. *Br J Urol* 1987;60:433–435
29. Walker AN, Mills SE, Fechner RE, et al. ‘Endometrial’ adenocarcinoma of the prostatic urethra arising in a villous polyp. A light microscopic and immunoperoxidase study. *Arch Pathol Lab Med* 1982; 12: 624–627.