

An Epidermoid Cyst of the Urinary Bladder: A Known Disease in an Unknown Location, a Case Report

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Abstract

Epidermoid cysts are rarely seen in the urinary tract especially in the bladder. Though there are many cases of such cysts in the urinary tract has been reported, only few cases of urinary bladder epidermoid cysts have been published so far in the literature.¹⁻⁴ In this article we report a biopsy proven epidermoid cyst of urinary bladder in a 27 years male patient.

Keywords: Urinary Bladder; Epidermoid Cyst; Case Report.

Introduction

Epidermoid cysts, or epidermal inclusion cysts are benign skin lesions commonly found in the trunk and extremities and are very rare in solid organs especially urinary tract and are extremely rare in the urinary bladder.⁵ Only few cases of urinary tract epidermoid cysts are reported in the literature. Here, we report a case of biopsy proven epidermal inclusion cyst of the urinary bladder.

Case Report

A 27-year-old young gentleman who is an occasional smoker and a non-alcoholic with no known comorbidities presented with the complaints of lower abdominal pain since 1 month, which was non radiating and also increase in urinary frequency since 1 month. No history of dysuria or hematuria. Clinical examination and per rectal examination were normal. Ultrasound abdomen was normal study with 9cc prostate with PVR of 20cc. Failed conservative management led to further evaluation with CECT KUB (Figure 1-a) which showed a small 1.3cm well-defined polypoidal lesion arising from the posterior wall of the urinary bladder near the midline. The lesion was predominantly hyperdense with attenuation value of 58HU and no contrast enhancement was seen. A 5mm dense calcification was noted along the left lateral margin of this lesion. There was no extra-cystic extension and no loco-regional lymph nodes were seen. Rest of the visualized urinary bladder showed normal morphology. His hemoglobin, kidney function tests, urine analysis were within normal limits. Urine for cytology was negative for any malignant cells or cellular atypia.

We proceeded with a flexible cystoscopy which revealed a 2x1cm conical, protruding lesion with smooth surface from the posterior wall of the urinary bladder (Figure 1-b) and rest of the bladder appeared normal.

Based on the above findings we planned for transurethral resection of the bladder lesion. Intraoperatively, keratin plug material was observed emanating from the lesion during resection (Figure 1-c). Subsequently, a thorough and deep resection was performed, and the excised tissue was sent for HPE and bladder was catheterized. Post operative period was uneventful. Patient was discharged on day 1 and catheter was removed after 4 days.

Histopathological examination (HPE) showed fragments of bladder wall focally lined by squamous epithelium along side keratin flakes (figure 1-d, e). Some of the fragments were lined by transitional and squamous epithelium. There was no evidence of dysplasia or malignancy. Detached fibromuscular stroma showed arborising vasculature lined by flat endothelial cells with extensive hyalinization. There is no evidence of adnexal structures. Follow up ultrasound abdomen imaging after 6 months was normal.

Figure 1: (a) Computerized Tomographic images showing calcified mass in the posterior wall of urinary bladder. (b) Cystoscopic image of the epidermoid cyst. (c) Intra-operated image showing pultaceous material coming out of cyst. (d and e) Showing keratin debris and keratinizing stratified squamous epithelium with no nuclear atypia.

Discussion

Epidermoid cysts are benign encapsulated subepidermal nodules and are characterized by keratinized stratified squamous lined epithelium, producing keratin and sebaceous material.⁶ It is more common in males than females and more commonly in the face, neck, and trunk.¹ They are usually asymptomatic, but solid organ epidermoid cysts can present with some symptoms associated with that particular organ.⁷ Possible theory as suggested by Ewing in 1942 is that epidermal remnants derived from wolffian ducts in internal organs can be the possible source of development of solid organ epidermoid cysts.⁸ Despite their infrequency in urinary tract, these cysts possess the potential to undergo malignant transformation,^{3,8,9} as documented in cases involving organs beyond the urinary tract. Smoking, chronic irritation due to chronic inflammation or repeated trauma has been attributed for malignant transformation.³ We have analyzed few reported cases of epidermoid cysts in urinary tract such as kidney and ureter and tried to compare with our case (Table-1). Hematuria or flank pain were the most common symptoms in such patients, mimicking malignancy.¹⁰ Some patients also had past history of stone surgery, suggesting traumatic implantation could be a possible theory. Calcification was seen on imaging in some patients. Few patients underwent nephrectomy and a definitive pre-operative diagnosis would have preserved kidney in such cases.¹¹

Literature shows traumatic implantation as a possible cause for implantation epidermoid. Our patient had no past history of any surgeries/procedures. Our pre-operative diagnosis was neoplasm considering the patient's age and imaging features and underwent transurethral resection for definite diagnosis.

Conclusion

Urinary tract epidermoid cysts are very rare to be studied extensively. Diagnostic dilemma pre-operatively leads to major surgeries. Treatment for such lesion is complete excision and histopathological examination to prove the diagnosis. Rarely epidermoid cysts can turn into malignant lesions. Hence such patients should be followed up at regular intervals initially, though such evidence is not available in literature. Finally, soft polypoidal lesions of bladder in young people, epidermoid cysts should be kept in mind before any radical surgery.

References

1. Akyüz O, Tatar Z, Çoban S, Demir M, Çam K. Epidermoid cyst of the urinary bladder: a case report. *Aging Male* 2020 Dec;23(5):1131-1133.
2. Wang W, Lv W, Tian Y. Epidermoid cyst of the urinary bladder: a rare case. *Urol J* 2014 May;11(2):1502-1503.
3. Haidari M, Saadaat R, Malakzai HA, Abdul-Ghafar J. Squamous cell carcinoma arising in an epidermal cyst of urinary bladder associated with vesicolithiasis: A case report and review of the literature. *Int J Surg Case Rep* 2021 Aug;85:106290. Published online 6 Aug 2021.
4. Puppala SN, Mahale A, Ullal S. A rare case of epidermoid cyst in urinary bladder. *Indian J Radiol Imaging* 2019;29(3):324-326. . Published online 30 Oct 2019.
5. Ishizaki H, Iida S, Koga H, Shimamatsu K, Matsuoka K. Epidermoid cyst of the ureter: a case report. *Int J Urol* 2007 May;14(5):443-444.
6. Sabhlok S, Kalele K, Phirange A, Kheur S. Congenital Giant Keratinous Cyst Mimicking Lipoma: Case Report and Review. *Indian J Dermatol* 2015;60(6):637.
7. Pradhan D, Quiroga-Garza G, Hrebinko R, Dhir R, Parwani AV. Epidermoid cyst of the renal pelvis masquerading as malignancy. *Indian J Pathol Microbiol* 2017;60(4):571-573.

8. Frank E, Macias D, Hondorp B, Kerstetter J, Inman JC. Incidental Squamous Cell Carcinoma in an Epidermal Inclusion Cyst: A Case Report and Review of the Literature. *Case Rep Dermatol* 2018 Mar;10(1):61-68.
9. Lin CY, Jwo SC. Squamous cell carcinoma arising in an epidermal inclusion cyst. *Chang Gung Med J* 2002 Apr;25(4):279-282.
10. Barrios Barreto R, Mendoza Suarez L, Del Valle Pestana A, Silvera Redondo C. Renal epidermoid cyst: A case report. *Urol Case Rep* 2021 Mar;38:101649.
11. Lim SC, Kim CS. Intrarenal epidermal cyst. *Pathol Int* 2003 Aug;53(8):574-578.
12. Dadali M, Emir L, Sunay M, Ozer E, Erol D. Intrarenal epidermal cyst. *Kaohsiung J Med Sci* 2010 Oct;26(10):555-557.
13. Jing Q, Wang X, Yuan X, Liu F, Zhang X. Epidermoid cyst in ureter: A case report. *Medicine (Baltimore)* 2022 Sep;101(37):e30254.