CASE REPORT

INCIDENTAL FINDINGS OF POLYPOID CYSTITIS IN A 6-YEAR OLD CHILD WITHOUT ANY HISTORY OF LOWER URINARY TRACT SYMPTOMS AND PREVIOUS URINARY CATHETERIZATION

Basit Masood, Waqas Iqbal, Nadeem Iqbal, Ijaz Hussain, Anwar Ul Haq, Usama Rehman, Asna Haroon, Faheemullah Khan*, Daud Iqbal, Aisha Hasan*****

Department of Urology, Shifa International Hospital Islamabad, *Department of Radiology, Hyatabad Medical Complex, Peshawar, **Department of Cardiology, Ayub Teaching Hospital, Abbottabad, ***Avecenna Medical College, Lahore-Pakistan

A 6-year-old boy presented to ER with acute pain in right iliac fossa without any history of lower urinary tract symptoms, haematuria and urinary catheterization. Ultrasound showed loculated cystic area in pelvis with non-visualized appendix. A CT scan abdomen and pelvis revealed loculated, multi-septated cystic lesion in right hemipelvis thought to be a collection from possible appendicular inflammation / perforation. The laboratory findings revealed raised CRP and normal urine routine examination and culture. Exploratory laparotomy revealed cystic urinary bladder growth involving dome with normal appendix, partial cystectomy was done. Histopathology confirmed polypoid cystitis with no evidence of malignancy. This is a very rare presentation of polypoidal cystitis, not previously reported in literature.

Citation: Masood B, Iqbal W, Iqbal N, Hussain I, Haq A, Rehman U *et al*. Incidental findings of polypoid cystitis in a 6-year old child without any history of Lower urinary tract symptoms and previous urinary catheterization. J Ayub Med Coll Abbottabad 2020;32(3):411–3.

INTRODUCTION

Polypoid cystitis is defined as nonspecific mucosal reaction secondary to chronically inflamed bladder, with polypoid or papillary lesions. It tends to be more frequent and severe with repeated and long-term catheterization, however may occur in non–catheterized patients. On imaging, it may present as a mass mimicking papillary urothelial neoplasm and often misdiagnosed as bladder carcinoma.

We report a case of polypoid cystitis found incidentally upon exploration for acute appendicitis in a 6-year-old boy and confirmed on histopathology, without history of lower urinary tract symptoms (LUTS) and urinary catheterization.

CASE REPORT

A 6-year-old boy presented to our hospital with acute pain in right iliac fossa radiating towards groin for the last 2 days, associated with anorexia and 2 episodes of vomiting, admitted with suspicion of acute appendicitis. He had no urinary symptoms, flank pain or gross haematuria. There was no past medical history regarding irritative or obstructive lower urinary tract symptoms. There was no history of any previous urinary catheterization, urinary tract infections, inflammations, malignancy and radiation exposure.

Routine urine examination and culture was normal. Blood urea, serum creatinine, and other biochemical blood tests showed no abnormal findings. Only C-reactive protein (CRP) was raised up to 10.

Ultrasound genitourinary tract showed normal kidneys ureter and bladder. However, ileum was thick walled and oedematous, with echogenic surrounding mesentery and multiple visible enlarged mesenteric lymph nodes. Multi-cystic multi-loculated area was seen in hypogastrium and in right iliac fossa along with trace ascites in lower abdomen, with no clear visualization of appendix.

A CT abdomen and pelvis with & without contrast revealed a large loculated, multiseptated cystic lesion in the right iliac fossa partly extending into the right hemi pelvis causing mass effect on the urinary bladder with associated trace pelvic ascites (Figure-A). Findings were thought to be related to appendicitis with septated collections.

An exploratory laparotomy revealed normal appendix, but, a cystic lesion arising from urinary bladder involving dome. It had well circumcised margins with no multi focality. Partial cystectomy was done. Post-operative recovery was uneventful and patient was discharged with suprapubic catheter on 2nd post op day. Foley catheter was removed on 2nd day and SPC was removed after 2 weeks post operatively. A follow up cystoscopy at 3 months was entirely normal.

Histopathologic examination revealed a polypoid, multi cystic lesion lined by benign urothelium, forming broad, club-shaped papilla. The stroma was markedly oedematous, showed muscular hypertrophy (Figure-B), with areas of muscle infarction and adipose tissue. Pockets of chronic inflammation (Figure-C) and reparative response

evident as reactive fibroblasts and neovascularization seen. The stroma was markedly congested and oedematous with loculation of adipose tissue and fat necrosis (Figure-C).

DISCUSSION

Polypoid cystitis is a form of chronic cystitis characterized by an exophytic inflammatory lesion of the bladder mucosa mimicking various papillary urothelial neoplasms.[1] Analogous lesions may occur throughout the urinary tract and referred as polypoid urethritis, polypoid ureteritis, and polypoid pyelititis when present in the urethra, ureter, and renal pelvis, respectively.

Friedman and Ash coined the term "polypoid cystitis" for the first time in 1959.[2] The most well-known aetiology of this condition is long-standing, indwelling catheterization.[1,3,4] This pathology occurs equally in men and women ranging in age from 20 months to 79 years. However, not many cases have been reported in paediatric population. Ekelund *et al*[5] reported the presence of its characteristic's histological changes in 40 of 51 patients treated with urethral catheterization. They also reported that the frequency of polypoid cystitis increased with time, reaching its maximum at 3 months of catheterization.[5] However, theoretically, any factor that irritates the bladder mucosa may result in polypoid cystitis.

Polypoid cystitis has also been noted to be associated with colovesical fistulas, calculi, urinary tract obstruction and a history of radiation therapy[4]. In our patient, there was no history of such causes, including catheterization, fistula, calculi, urinary tract obstruction or radiation therapy. The radiological findings of polypoid cystitis are not well known. CT findings in polypoid cystitis are known to be non-specific and cannot be differentiated from those of transitional cell carcinoma.[1,4,5]

Kim[1] and Choi *et al*[6] reported the radiological findings of polypoid cystitis unrelated to indwelling catheterization. The size of the masses reported were approximately 5–15 cm and located on lateral and posterior wall of the urinary bladder.[5] Others have reported clinical and pathological features of patients with polypoid cystitis unrelated to indwelling catheterization, noting that the lesions may be localized at deferent sites of the bladder not just the posterior wall or dome. In our patient, polypoid cystitis manifested as multiple large cystic lesions located at dome of the bladder and appeared extra-luminal, with largest cyst measuring 15 cm. Additionally, it was difficult to differentiate between right iliac fossa cystic lesions and appendicitis.

Polypoid cystitis associated with catheterization has mostly been observed on the dome and the posterior wall of the urinary bladder, in the area in close contact with the catheter tip.[5,6] It is believed that mechanical irritation by the catheter tip and the material of the catheter cause the development of polypoid cystitis.[4–6]

The enhancement pattern of polypoid cystitis is not well known. The MRI appearance of these lesions is characterized by low-signal intensity on T2-weighted imaging and iso-signal intensity compared with the bladder wall on T1-weighted imaging.[1] Relatively high signal intensity with a branching pattern on T2-weighted images.[5,6] MRI was not performed in our case, however, mass had peripherally enhancing walls on contrast CT scan.

Histopathologically, polypoid cystitis is a reversible, exophytic, inflammatory lesion of the bladder mucosa. Polypoid, papillary and bullous cystitis are considered to be a part of a continuous spectrum with identical pathological findings, depending on the amount of stromal oedema and gross morphologic characteristics.[4–6] The papillary type has the narrowest base and may form an exophytic mass. The width of a bullous lesion is more than its height.[7,8] It may be difficult to distinguish papillary-polypoid cystitis from various papillary urothelial neoplasms on radiological or cystoscopic examination due to the similar appearances of the lesions.

To our knowledge, this presentation of papillary cystitis has not been reported in literature so far, and merits being included in differentials of right iliac fossa pain.

CONCLUSION

Polypoid and papillary cystitis should be considered in the differential diagnosis of transitional cell carcinoma of the bladder and lower abdominal pain, a biopsy is necessary for a definitive diagnosis. Further case accumulation is required for elucidation of the typical imaging findings of this rare lesion in paediatric population.

REFERENCES

1. Kim SH, Yang DM, Kim NR. Polypoid and papillary cystitis mimicking a large transitional carcinoma in a patient without a history of catheterization: computed tomography and magnetic resonance findings. J Comput Assist Tomogr 2004;28:485–7.
2. Foote FW, Frazell EL. Atlas of tumor pathology. In: Friedman NB, Ash JE, Armed Forces Institute of Pathology, editors. Tumors of the urinary bladder. Washington, D. C.: Armed Forces Institute of Pathology ; for sale by the American Registry of Pathology; 1959. pp. 190-5.

3. Lane Z, Epstein JI. Polypoid/papillary cystitis: a series of 41 cases misdiagnosed as papillary urothelial neoplasia. Am J Surg Pathol. 2008;32:758-64.
4. Kilic S, Erguvan R, Ipek D, Gokce H, Gunes A, Aydin NE, *et al*. Polypoid cystitis unrelated to indwelling catheters: a report of eight patients. Int Urol Nephrol 2002;34:293–7.
5. Ekelund P, Johansson S. Polypoid cystitis: a catheter associated lesion of the human bladder. Acta Pathol Microbiol Scand A. 1979;87A:179-84.
6. Choi PY, Kwon OJ. Polypoid Cystitis Mimicking Bladder Tumor: A Case Report. J Korean Radiol Soc. 2002;46:63-6.
7. Epstein, Jonathan I. Cystitis. In: Epstein JI, Amin MB, Reuter VE, editors. Bladder biopsy interpretation. Philadelphia: Lippincott Williams & Wilkins; 2004. pp. 191-67.
8. Young RH. Papillary and polypoid cystitis. A report of eight cases. Am J Surg Pathol 1988;12:542–6.

Submitted: September 8, 2019	*Revised: December 25, 2019*	*Accepted: December 29, 2019*

Address for Correspondence:

Nadeem Iqbal, Department of Urology, Shifa International hospital Islamabad-Pakistan
Cell: +92 334 534 6538
Email: dr_nadeemiqbal84@yahoo.com