



PEDIATRIC UROLOGY CASE REPORTS

ISSN: 2148–2969

Journal homepage: <http://www.pediatricurologycasereports.com>

Cystoscopy in children presenting with hematuria should not be overlooked

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Abstract A 14-year-old girl was admitted with the complaints of intermittent painless macroscopic hematuria the ongoing for nearly two months and dysuria. Ten to 15 erythrocytes and plenty of urine leukocytes were found in the investigation. Ultrasonographic examination of the posterior wall of the bladder showed that a polypoid hypoechoic solid lesion 28 x 11 mm in size was protruding into the lumen. Cystoscopy showed a vegetating papillary tumor of 2x3 cm in size on the posterior wall of the bladder protruding into the lumen; this was then resected. Histopathological examination showed low-grade (G1) transitional cell carcinoma. In the light of this case, in children presenting with hematuria, the possibility of bladder tumors should be kept in mind; thus, retraction with the help of a cystoscope should be considered.

Key Words Bladder tumor; transitional cell carcinoma; hematuria; cystoscopy; children.

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Accepted for publication: 10 April 2015

INTRODUCTION

Transitional cell carcinoma (TCC) of the bladder is often characterized by painless gross hematuria and clots in elderly patients over the age of 50 years. The median age of

diagnosis of bladder urothelial carcinoma is 69 years in males and 71 years in females, but this disease can occur at any age, and is even rarely seen in children [1].

Younger patients presenting with hematuria mostly have other diseases with similar clinical symptoms. In these cases, cystoscopy should not be overlooked. In the literature, few reports have focused on the importance of cystoscopy in patients presenting with hematuria at a young age; as a result, this case report is considered to be of value [2,3].

CASE REPORT

A 14-year-old girl was admitted with the complaints of intermittent painless hematuria the ongoing for nearly two months and dysuria. Ten to 15 erythrocytes and plenty of urine leukocytes were found in the investigation. On ultrasonography (US) examination of the urinary system, a polypoid hypoechoic solid lesion of 28 x 11 mm in size on the posterior wall of the bladder was seen protruding into the lumen. After treatment of urinary tract infections and negative urine culture, the patient underwent cystoscopy, and in front of the posterior wall of the bladder, a protruding vegetating papillary tumor of 2x3 cm in size was observed. Transurethral resection was

performed under general anesthesia. The complete tumor was resected (Fig. 1).

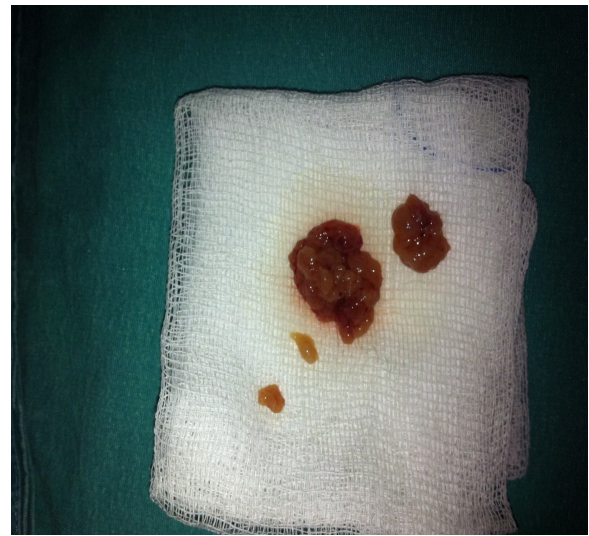


Fig. 1. Transurethral resected TCC specimen.

The histopathological examination report showed low-grade transitional cell carcinoma (Ta G1 TCC;WHO/ISUP 2004; Fig 2, Fig 3).

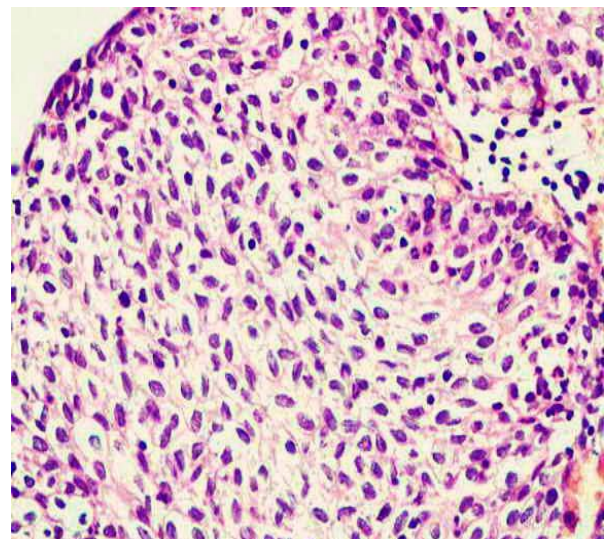


Fig 2. Cytologic atypia and mitotic activity in urothelial epithelium(H+E/x400)

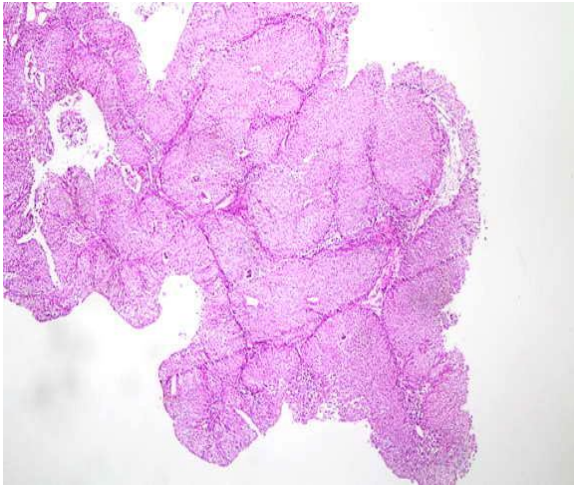


Fig. 3. Papillomatous structures and multilayered urothelium with low atypia (H+E/x100).

The patient's family had no history of malignancy, and after a complete medical examination, we could not find any other secondary malignancy.

After the intervention, no intravesical chemotherapy was carried out because of continuing macroscopic hematuria for 24 hours.

DISCUSSION

TCC is rare in young people and, it found less than %1 in patients under 40 years of age [4]. While many reports for the treatment and clinical characteristics of these tumors have been published, there is still controversy about the clinical progression and prognosis. In fact, in some groups, similar clinical prognoses and conditions for bladder cancer in young and older patients have been observed [5]; however, other

studies reported that in younger patients were lower rates of progression, recurrence, and preferable survival [6,8]. An important finding was the major delay of almost 60 days from the onset of symptoms until the diagnosis was established with US. This seems to be common in younger patients because of the low incidence of TCC at this age and the predominance of benign causes of hematuria, causing concern about an aggressive work-up. Because it is considered that these procedures are too invasive.

In the presence of gross hematuria, a urinary tract US is the first work-up for the diagnosis of bladder tumor. Although it cannot replace cystoscopy, it is a reliable diagnostic tool for the detection of TCC, especially for young patients who hesitate to undergo a diagnostic cystoscopy. Ultrasound is a sensitive test for determining TCC in young people, unlike in the older age group [9].

There have been few reports in the literature concerning cases of transitional cell bladder cancer at a young age. However, in light of this case, when children present with hematuria, the possibility of bladder tumors and bladder cancer should be kept in mind; retraction with ultrasound and cystoscopy should thus be considered.

Molecular studies have shown us that TCC exhibits a different course in children from

adult patients. *Fine et al.* [10] report a series of 23 TCC cases in patients aged less than 20 years. They confirmed that these tumors were low-risk and low-grade.

The inadequate detail about TCC in younger patients makes it hard to determine how we must follow these patients. Clinicians hesitate to perform cystoscopy on a young bladder due to the possibility of causing urethral trauma, but it is necessary to identify recurrences early. Almost all clinics

use cystoscopy ± ultrasound ± urine cytology for follow-up, but sufficient evidence has not yet been provided on the topic of when we can propose that these patients can safely stop being followed up.

Acknowledgements

The author(s) declare that they have no competing interests and financial support.

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