An unusual cause of gross hematuria: Questions

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Case presentation

An 8-year-old male patient was admitted with intermittent gross hematuria and dysuria of 1 month's duration. Prior to visiting our hospital he had been treated with several antibiotics despite negative urine cultures. He had no history of any allergies, genitourinary problems or external trauma. According to his medical history, he had been diagnosed with autism 2 years previously, and had been treated with valproic acid since then. His family history was insignificant.

There were no pathological findings on physical examination. Macroscopically, the urine was red. Urinalysis revealed hematuria, minimal proteinuria, no pyuria or casts. Urine culture was negative. Spot urine calcium/creatinine ratio was normal (0.04).

The answers to these questions can be found at <http://dx.doi.org/10.1007/s00467-013-2670-x>.

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Fig. 1 Infiltration of the bladder mucosa and submucosa by numerous eosinophils

Laboratory studies revealed a white blood cell count of $7,900/\text{mm}^3$ with peripheral eosinophilia (10 %). The serum creatinine level was 0.42 mg/dl, blood urea nitrogen was 26 mg/dl, electrolytes were normal. Immunological studies showed markedly elevated serum IgE (1,050 IU/ml). Bladder wall thickness was 8 mm under ultrasound with no upper urinary tract and renal pathology. The etiology of gross hematuria remained uncertain; thus, further investigation was performed.

Cystoscopy revealed edematous and hyperemic bladder wall and urethra, but no petechia or bleeding. Histopathological examination showed an infiltration of the mucosa and submucosa by numerous eosinophils (Fig. 1).

Questions

1. What is the most likely diagnosis?
2. What additional diagnostic examinations would you perform?
3. What treatment should be given?