Hydronephrosis associated with ureteral wall thickness: Question

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Case report

A 12-year old male patient presented for elevated blood urea nitrogen and creatinine levels that were noticed during evaluation for anorexia, vomiting and weight loss for the preceding 2 weeks. Past medical history was characterized by right hydronephrosis determined 6 months ago upon evaluation for flank pain. At that time, although imaging tests had suggested suspicious right lower ureteral stone, cystoscopy had revealed fibrotic changes without stone in the lower right ureter. A temporary ureteral stent had been placed and removed during follow up.

Physical examination was normal apart from pallor. Laboratory tests revealed normal urinalysis, low hemoglobin (8.5 g/dL), low MCV (74.5 fL), elevated acute phase response (erythrocyte sedimentation rate 54 mm/h, C-reactive protein 17.5 mg/L), impaired renal functions (BUN 23 mg/dL, creatinine 2.34 mg/dL, creatinine clearance 30 mL/min/1.73 m², fractional Na excretion 3.6 %). Urinary system

ultrasonography (USG) showed bilateral hydroureteronephrosis and increased renal echogenity. Magnetic resonance (MR) urography disclosed increased wall thickness in all segments of right ureter. Diagnostic ureteroscopy and retrograde pyelography revealed segmental areas of stenosis in both ureters (Fig. 1) and both ureters were catheterized. Renal functions were normalized shortly afterwards.

Diagnostic tests for the diseases associated with ureteral wall thickening including urine culture, PPD skin test, chest X-ray, immunological tests for vasculitides and *MEFV* gene mutation screening were normal.

Question

What would you do to diagnose the etiology of ureteral wall thickening at that point?

The answer to this question can be found at <http://dx.doi.org/10.1007/s00467-012-2263-0>.

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Fig. 1 Segmental areas of stenosis in the right ureter in retrograde pyelography