

Kidney International (2008) 73, 980; doi:10.1038/sj.ki.5002777

Acute allergic interstitial nephritis and eosinophiluria

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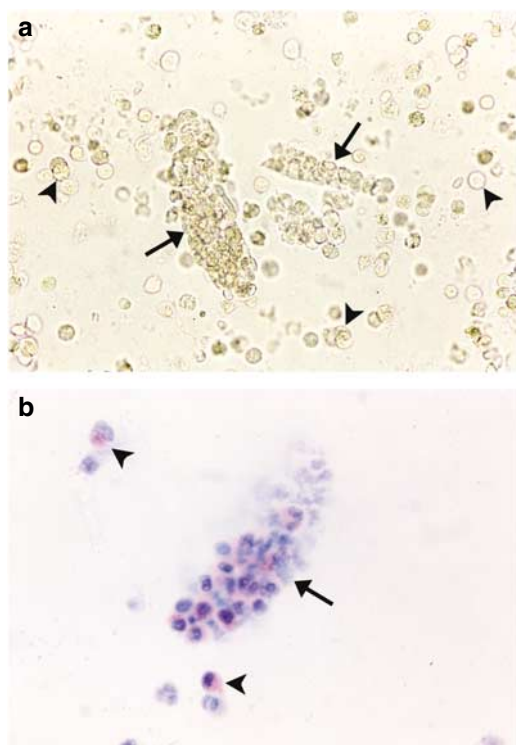


Figure 1 | (a) Unstained urine sediment showing leukocyturia (▲) with cellular casts (↑). (b) Hansel's stain of urine sediment showing both free eosinophils (▲) and eosinophils in casts (↑).

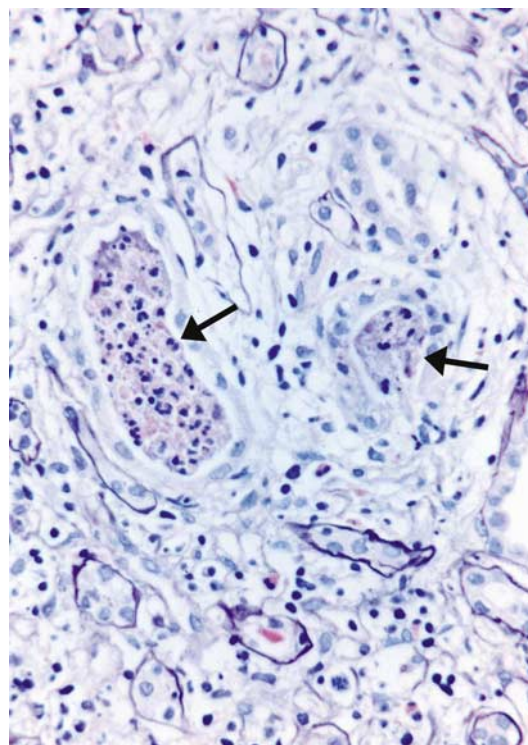


Figure 2 | Renal biopsy showing interstitial infiltrate and leukocyte casts (↑) (H&E stain). Some of the leukocytes are eosinophils.

A 45-year-old white man became acutely ill with fever (39.3°), chills, and nausea for 3 weeks. He had received cimetidine and naproxen for 6 weeks. A diagnosis of acute pyelonephritis was made because of pyuria; however, the urine culture was sterile and he was referred to nephrology. Blood tests revealed white cell count of $8.3 \times 10^9 \text{ l}^{-1}$, eosinophils 0.42 (normal <0.45), urea 25 mg per 100 ml (8.9 mmol l^{-1}), and creatinine 1.6 mg per 100 ml ($122 \mu\text{mol l}^{-1}$); the creatinine clearance was 90 ml per min and urine protein 0.13 g per day. Urinalysis showed the presence of cellular casts with leukocytes (Figure 1a) and the presence of free eosinophils and eosinophils in casts

(Figure 1b). A diagnosis of acute allergic interstitial nephritis was made and a renal biopsy was performed (Figure 2). Subsequently, he was treated with prednisone with complete resolution of all abnormalities, that is, blood eosinophils 0.1–0.2, blood urea 19.6 mg per 100 ml (7.0 mmol l^{-1}), serum creatinine 1.0 mg per 100 ml ($76 \mu\text{mol l}^{-1}$), creatinine clearance 97.2 ml per min, and urine protein 0.06 g per day with normal urinalysis.

This case illustrates the importance of recognizing drug-induced interstitial nephritis, a potentially reversible condition, and the diagnostic value of the urine sediment and the presence of eosinophils.