

Acute Drug-Induced Interstitial Nephritis

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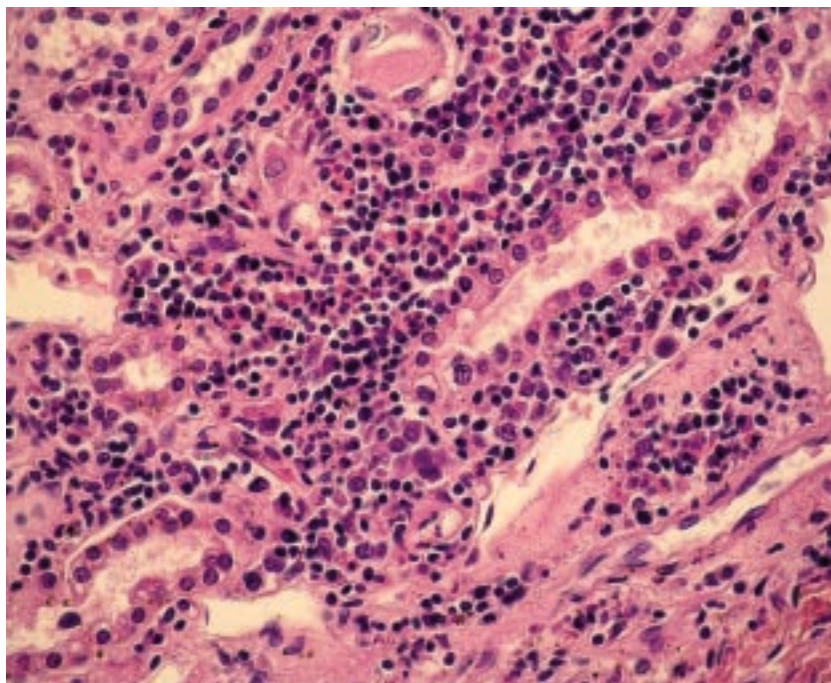


Fig. 1. Histopathology shows mixed lymphocytes and eosinophil infiltration in the interstitial area (HE×400).

A 56-year-old woman with neuroendocrine carcinoma of liver developed sepsis. Multiple antibiotics were given, but she died of septic shock. At autopsy, the bilateral kidneys were swollen (about 200 g each). Histopathology showed lymphocytes admixed with eosinophil infiltration in the interstitial area, diagnostic of acute drug-induced interstitial nephritis (Fig. 1). Acute drug-induced interstitial nephritis is characterized by infiltrates of activated T lymphocytes and eosinophils, a pattern that indicates a type IV cell-mediated immune reaction. Drugs most commonly implicated include nonsteroidal anti-inflammatory drugs, diuretics and certain antibiotics, especially β -lactam antibiotics such as synthetic penicillins and cephalosporins. Microscopically, there is patchy infiltration of the cortex and medulla by lymphocytes and a small number of eosinophils. The proximal and distal tubules are focally invaded by white blood cells ("tubulitis"). Acute drug-induced in-

terstitial nephritis manifests as acute renal failure, typically about 2 weeks after drug administration has started. The urine contains erythrocytes, leukocytes (including eosinophils), and sometimes leukocyte casts. Most patients recover fully within several weeks or months if the drug is discontinued.

FURTHER READING

1. Chatzikyrkou C, Hamwi I, Clajus C, Becker J, Hafer C, Kielstein JT: Biopsy proven acute interstitial nephritis after treatment with moxifloxacin. *BMC Nephrol* 2010; **11**:19.
2. Perazella MA, Markowitz GS: Drug-induced acute interstitial nephritis. *Nat Rev Nephrol* 2010; **6**:461-470.