Acquired Cystic Kidney Disease and Renal Cell Carcinoma

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A 45-year-old man complained of blood in his urine. The patient had a 7-year history of chronic renal failure secondary to hypertension; he had undergone hemodialysis for the past 5 years.

The physical examination was unremarkable. White blood cell and platelet counts were normal; hemoglobin level was 7 g/dL; hematocrit, 20%; blood urea nitrogen level, 50 mg/dL; and creatinine level, 6 mg/dL. Other laboratory findings were within normal limits. Both a CT scan (A) and an MRI (B) of the abdomen showed multiple bilateral renal cysts. A solid component was seen in the middle of a cyst in the left kidney (white arrows). Multiple small retroperitoneal lymph nodes (black arrows) also were noted.

Drs Hesham M. Taha, Japinder Singh, Gamal Kostandy, and David Dosik of New York Methodist Hospital, Brooklyn, made the diagnosis of acquired cystic kidney disease (ACKD) complicated by renal cell carcinoma. ACKD is usually asymptomatic and has been described in patients with end-stage renal disease. Renal cell carcinoma is the most serious of the complications associated with ACKD. In one study, renal cell carcinoma developed in 3.85% of patients with ACKD who were undergoing dialysis. This incidence is significantly higher than that in the general population. The pathogenesis of renal cell carcinoma is unclear. It may occur in a multistep sequence, advancing from cyst to adenoma to adenocarcinoma. This process may not be stopped even if the uremia is corrected.

CT is the diagnostic method of choice for ACKD. Periodic CT studies of all patients undergoing hemodialysis are costly and not warranted; appropriate candidates for evaluation include white men who have been undergoing hemodialysis for more than 3 years and patients with back pain; genitourinary bleeding; and sonographic findings of solid renal mass, hemorrhagic renal cyst, or adenopathy. This patient underwent a nephrectomy; immunotherapy was given postoperatively.

REFERENCES: