

## Renal squamous cell carcinoma with extensive stones

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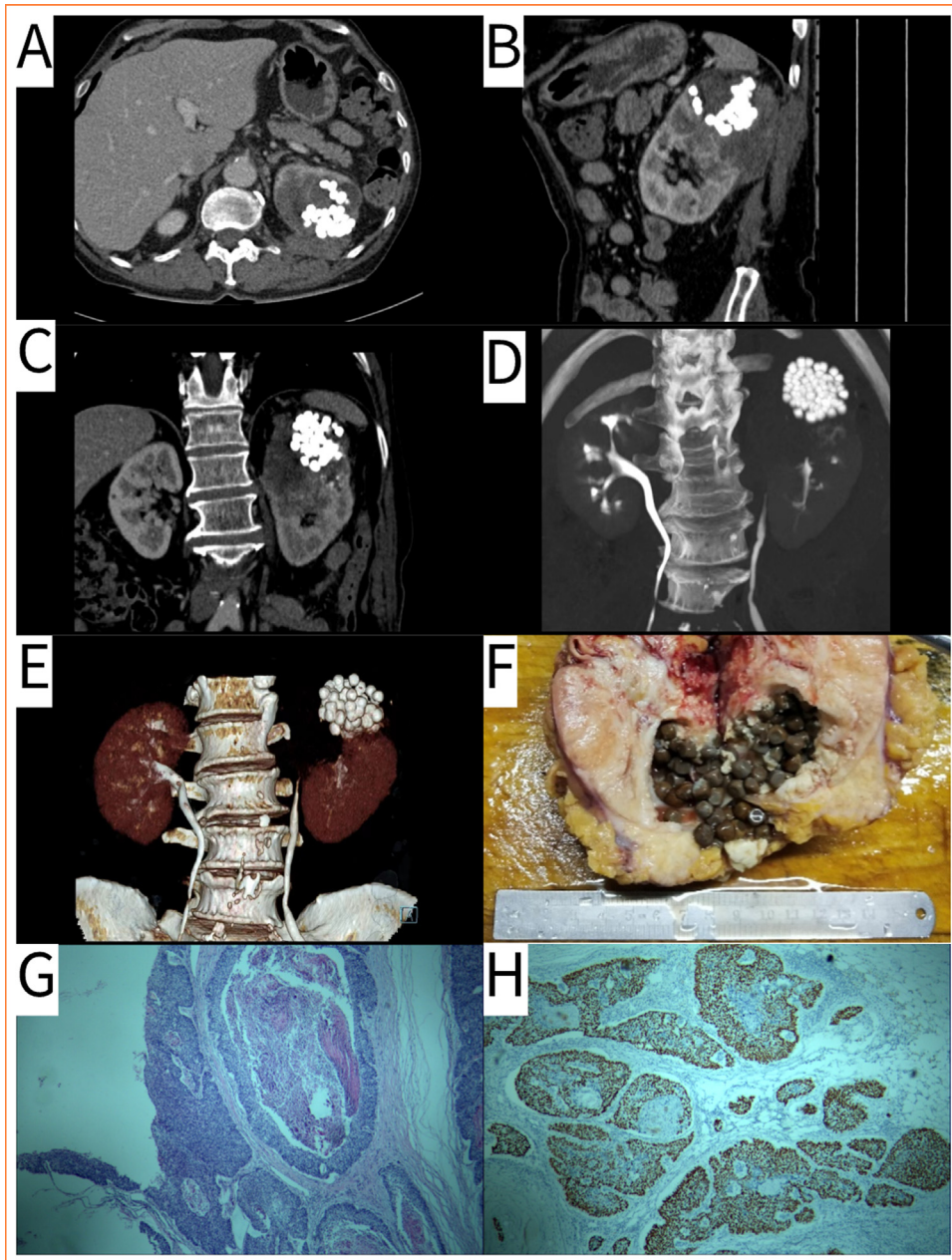


FIG. 1.

## CASE PRESENTATION

An 82-year-old man presented to the urology department with a 1-week history of intermittent gross hematuria. Ultrasonography of the urinary system revealed a left upper pole renal tumor. Computed tomography urography imaging (Fig. 1A-D) demonstrated an irregular tumor within the superior pole of the left kidney, with mild to moderate enhancement and internal multiple round stones. Volume rendering (Fig. 1E) showed a filling defect of the left renal pelvis and upper pole accompanied with extensive stones. Laboratory evaluation revealed the following: C-reactive protein, 23.94 mg/L (reference range, 0 to 10 mg/L); urine red blood cell count, 5.35 (reference range, 0 to 3); carcinoembryonic antigen, 18.39 ng/mL (reference range, 0 to 5 ng/mL); cancer antigen 199, 33.98 kU/L (reference range, 0 to 30 kU/L); and squamous cell carcinoma antigen, 41.07  $\mu$ g/L (reference range, 0 to 2.7  $\mu$ g/L). The patient underwent left radical nephrectomy. A gross examination (Fig. 1F) revealed multiple regular pebble-shaped stones in the center of the grayish white renal tumor. Pathological examination (Fig. 1G) confirmed squamous cell carcinoma, which had migrated with the mucosa of the renal pelvis, with the following immunohistochemistry results: CK5/6 (+) (Fig. 1H), P40 (+), PAX-8 (-), CK20 (-), CK7 (-), GATA3-3 (-), Ki-67 (60% +). However, 10 months after the operation, widespread metastases occurred involving the retroperitoneal space, pelvic cavity, both lungs, and left subclavian region.

Renal squamous cell carcinoma is a rare neoplasm, which is found in only 0.5 to 0.8% of malignant renal tumors.<sup>1</sup> The patient did not have a history of cigarette smoking, but he had a renal calculi history for more than ten years. Risk factors of renal squamous cell carcinoma include long-standing renal stones, chronic infection, and inflammation.<sup>2</sup> Renal squamous cell carcinoma arises from the renal pelvis. It is thought that the urothelium may develop squamous metaplasia in the presence of chronic inflammatory conditions.<sup>3</sup> The prognosis is generally poor, with a 5-year survival of less than 10%.<sup>3</sup>

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