Collision tumors are defined as the coexistence of two adjacent but histologically distinct tumors with sharp borders forming a single lesion.

Although collision tumors in various organs, such as lungs, GI tract, adrenal glands, and skin, have been well-documented, renal collision tumors composed of papillary renal cell carcinoma (RCC) and chromophobe RCC (ChRCC) are extremely rare.

Hyperpigmented microcystic ChRCC is an uncommon variant of ChRCC with indolent behavior.

We present an exceedingly rare case of renal collision tumor of Hyperpigmented microcystic ChRCC and papillary RCC.

CASE REPORT

A 70-year-old male non-smoker with a history of chronic kidney disease, aortic stenosis and hypertension presents with dyspnea.

Abdominal CT and MRI scans:
• A 7.2 cm bilobed mass located in the upper pole of the left kidney.

Gross evaluation:
• Two tumor components completely separated by fibrous septa in the upper pole:
  - Larger solid black/orange mottled tumor, 5.4 cm
  - Adjacent smaller lobulated yellow tumor, 5.0 cm
• Three additional solid yellow nodules, 0.8 to 1.1 cm, in the mid to lower pole

Histological evaluation:
• The larger black tumor component reveals diagnostic features of hyperpigmented microcystic ChRCC
• The adjacent smaller yellow tumor component and additional nodules reveal diagnostic features of papillary RCC

Immunohistochemistry (IHC) and special stains:
• Both tumor components: Positive for PAX8 and CK7
• Hyperpigmented microcystic ChRCC component: Positive for CD117 and Colloidal iron
• Papillary RCC component: Positive for Vimentin

RESULTS

Both tumor components were highlighted by PAX8 (A, B) and CK7 (C, D). Hyperpigmented microcystic ChRCC component ( ) was also positive for CD117 (E) and Colloidal iron (G) stains, but negative for Vimentin (I). The adjacent papillary RCC component ( ) was negative for CD117 (F) and Colloidal iron stains (H), but positive for Vimentin (J).

REFERENCES