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Case Report

Mucinous tubular and spindle cell carcinoma of the kidney

A. P. I. Prabath, B. Sathesan, S. A. S. Goonewardena and Charisma S Fernando*
Department of Urology, National Hospital of Sri Lanka, Colombo; *Department of Pathology, Faculty of Medicine, University of Colombo.

Introduction

Mucinous tubular and spindle cell carcinoma of the kidney (MTSCC) is a recently recognized renal tumour. First described in 1998 and previously classified in the category "renal cell carcinoma, unclassified" it was included as a separate entity in the World Health Organization (WHO) classification of renal neoplasm in 2004 (1-3). We report a mucinous tubular and spindle cell carcinoma of kidney which occurred in a 60 year old man.

Case report

A 60-year old man investigated for uncontrolled hypertension had an incidental finding of a left renal mass lesion on ultrasonography. He denied a history of haematuria, loin pain and fever. Clinical examination was unremarkable except for the elevated blood pressure. His ESR was 18 mmin the first hour, haemoglobin was 12.6 g/dl and urine microscopy was negative. Computed tomography scan of the abdomen revealed a 6x7 cm well-circumscribed heterogeneous enhancing mass in the upper pole of the left kidney. The tumour was confined to the kidney.

Open transperitoneal left radical nephrectomy was performed. Cut surface showed a fairly well circumscribed solid tumour measuring 65x60x45 mm in the upper pole. There was a variegated appearance with grayish white and black areas. The adjacent renal parenchyma was macroscopically unremarkable. There was no invasion of renal vein in the hilum, ureter, surrounding perinephric fat or Gerota's fascia.

The tumour was composed of cuboidal cells arranged in long cords, packed tubules and small nests with areas of abrupt transition to spindle cell morphology (Figure 1). These epithelial structures were arrayed against a background of lightly basophilic mucinous or myxoid material. There were scattered cells with enlarged hyperchromatic nuclei. Mitotic figures were infrequent. There were scattered chronic inflammatory cells in the background. The tumour was confined to the kidney. There was no lymphovascular invasion.

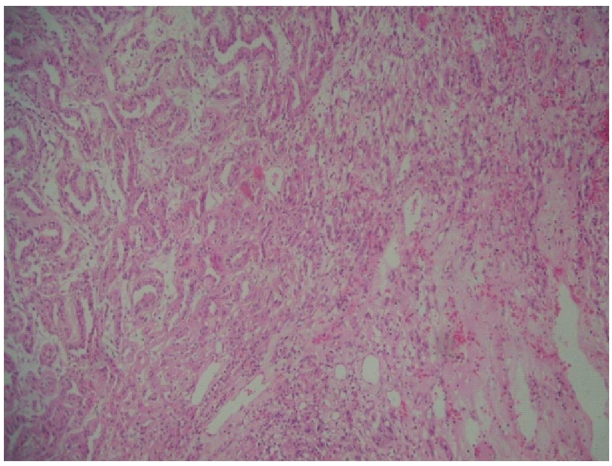

Figure 1. *Histological section showing cuboidal cells making abrupt transition to spindle cell morphology (haematoxalineosin stain, magnification x 100).*

Discussion

Mucinous tubular and spindle cell tumour of the kidney (MTSCC) is a rare and recently recognised entity with relatively indolent behaviour. Although our patient is a male, renal mucinous tubular and spindle cell tumour is more common in females with a wide age range of 17-82 years (average, 53 years), with a male:female ratio of 1:4 (4). Similar to other renal tumours, they typically present as an asymptomatic mass, although flank pain and haematuria may occur. These tumours are grossly well circumscribed and are usually located in the medulla.

Histologically, the tumour is composed of cuboidal cells arranged in microtubules and long cords making abrupt transitions to spindle morphology. These structures are arrayed in a mucinous or myxoidstroma (5). Nuclear atypia and mitoses are rare in both cuboidal and spindle cells.

The main differential diagnosis is papillary renal cell carcinoma type I solid (sarcomatoid) growth. Immunohistochemical analyses of MTSCC have not identified a consistent expression profile useful in discriminating them from papillary renal cell carcinoma type I. Both tumours frequently express cytokeratin 7, epithelial membrane antigen, high molecular weight cytokeratin and a-methylacyl-CoA racemase (3).

MTSCC lacks the gains of chromosomes 7 and 17 and losses of chromosome Y that are typical and consistent with papillary renal cell carcinoma demonstrated in fluorescence in situ hybridization (FISH) based analyses (7). Cytogenetic analysis of MTSCC has demonstrated frequent losses of chromosomes 1, 4q, 6, 8p, 9p, 11q, 13, 14 and 15. Chromosomal studies were not available for this patient.

Conclusion

Mucinous tubular and spindle cell carcinoma of the kidney is a rare low-grade renal tumour having overlapping morphological and immunohistochemical features with other renal cell neoplasms. It has to be differentiated from other high-grade renal neoplasms because of its favourable prognosis (6).

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Authors

A. P. I. Prabath, MBBS (Ruhuna), MD (Col), MRCS (Edin)
Senior Registrar in Urology*

B. Sathesan, MBBS (Jaffna), MS (Col)
Senior Registrar in Urology*

Serozsha A. S. Goonewardena, MS (Col), FRCS (Eng), DUrol (Lond)
Consultant Urological Surgeon*

*Department of Urology, National Hospital of Sri Lanka, Colombo.

Charisma S Fernando, MBBS
Department of Pathology, Faculty of Medicine, University of Colombo.