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Original Research Paper

Pathology

RENAL CELL CARCINOMA, UNCLASSIFIED: AN INTERESTING RARE CASE

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ABSTRACT Unclassified renal cell carcinoma is a diagnostic category for renal cell tumors not fitting into one of the established subtypes in our current classification system. These tumors have different clinicopathological features. Unclassified renal cell carcinoma with high-grade histologic features represents an aggressive tumor. The authors herein report a renal tumour where unusual histological patterns which did not readily fit into any of the other categories and hence was reported as renal cell carcinoma, unclassified.

KEYWORDS :

INTRODUCTION:

Renal cell carcinoma (RCC) unclassified constitute about 3-4% of all renal carcinomas. It essentially is a tumour where more than one morphological variants or subtypes are seen in a single tumour. [1] Usually there is a mixture of 2-3 different types. Unclassified renal cell carcinoma is essentially identical to medullary carcinoma on morphology but have different clinical presentation than ideal medullary carcinoma.[2]

We report a case of renal tumour where unusual histological pattern formed the majority of tumor and the second main type was clear renal cell carcinoma.

Case Presentation:

A 68-year-old male presented with complaints of hypertension and left sided abdominal pain, dull left flank discomfort for 3 months. Routine laboratory investigations were within normal limits. He had no evidence of sickle cell trait or sickle cell disease with haemoglobin electrophoresis within normal limits. Ultrasound examination showed cystic and partially solid mass measuring 10 x 10cm at the upper pole of left kidney. The adjacent adrenal gland was uninvolved. A radiological diagnosis of carcinoma was made, and the patient underwent left radical nephrectomy. On gross examination of the specimen, outer surface was partially covered with capsule [Figure 1A]. Engorged veins were seen on the surface. Cut surface showed 10 X 10.5 cm. greyish white areas with adjacent cystic areas [Figure 1B].

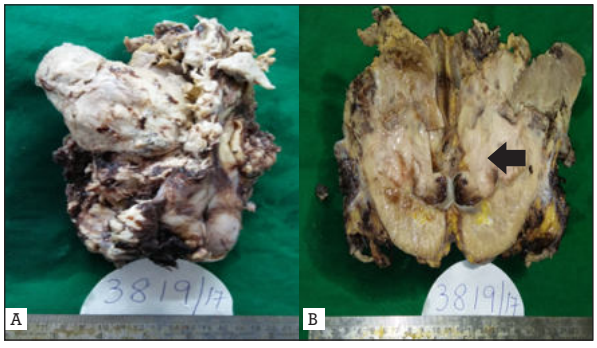

Figure 1A: Showing partly capsulated nephrectomy specimen. 1B: Greyish white tumour (black arrow) mainly solid mass with cystic areas and necrosis.

Multiple sections were taken from both cystic and solid areas. Microscopic examination revealed varied morphology of the tumours in different areas. Majority of the tumour showed solid pattern. The individual tumour cells showed moderate to marked pleomorphism, high N:C ratio and prominent nucleoli [Figure 2A]. Focal areas show medullary phenotype [Figure 2B]. Prominent areas of necrosis, desmoplasia and inflammation were noted [Figure 2C]. Focal areas showed clear cell carcinoma pattern with the tumour cells showing abundant clear cytoplasm and grade 1 or 2 nuclei. The tumour was confined to the kidney. Sections from the hilar structures and the perirenal tissue were free of tumour.

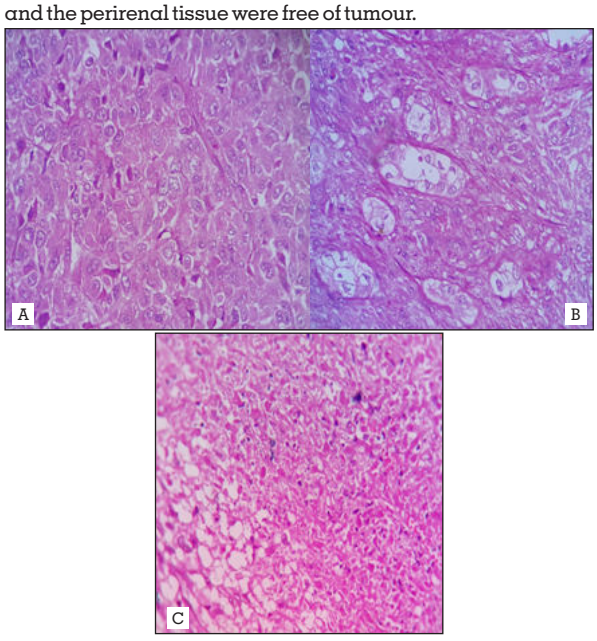

Figure 2A: Solid sheets of tumor cells showing marked pleomorphism with high N: C ratio and prominent nucleoli. 2B: Foci of Medullary pattern with pleomorphic tumor cells with abundant eosinophilic cytoplasm. 2C: Tumour cells with abundant necrosis (H&E, 400 X).

The final diagnosis of RCC, unclassified was made. Patient died following 6 months after the surgery.

DISCUSSION:

The incidence of unclassified renal cell carcinoma was 2.9%. [3]Primary renal carcinoma that does not fit to any of the known RCC types. Included in this category are the tumours, which

are composite of more than one type of well-recognized renal tumours, sarcomatoid morphology without recognizable epithelial component, mucin production, mixture of epithelial and stromal elements, and unrecognized cell types. [4]

The tumour in our case was poorly circumscribed mass in the medullary region, commonly showing variable amounts of haemorrhage and necrosis which gave us a lead towards medullary carcinoma. However, unlike medullary carcinoma of kidney our patient was of Indian descent, and at presented at elderly age. It was not associated with sickle cell trait or sickle cell disease and had no existence or history of hemoglobinopathy. In contrast to this patient medullary renal cell carcinoma is common in the young patients of African descent with associated sickle cell disease or trait. [5]

Our patient was 68 years old male with hypertension and dull left flank pain while medullary renal cell carcinoma is typically seen in a young male with hematuria and/or flank pain. [6]

Microscopically, a characteristic reticular or cribriform pattern with a striking desmoplastic stromal response and a robust mixed inflammatory infiltrate is observed in medullary carcinoma. [7,8] Our case had solid pattern and tumour cells revealed marked pleomorphism and surrounding intense desmoplasia. [9]

A second pattern of clear renal cell carcinoma was also noted. Usual more than one tumour subtypes are seen in RCC, unclassified. Keeping in view all the above features a final diagnosis of renal cell carcinoma, unclassified was rendered. However both the tumour subtypes show aggressive clinical behaviour. [10]

CONCLUSIONS:

Unclassified renal cell carcinoma is associated with distinct and highly aggressive biological behaviour, and poor clinical outcome.

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