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Rare variant of renal cell carcinoma: A case report from rural tertiary care centre

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Abstract
Introduction: Renal Cell Carcinoma (RCC) is the most common type of kidney cancer, accounting for 3% of all malignancies and 85% of all malignant kidney tumors. The histological classification is of utmost importance, considering the significant prognostic and therapeutic implications of these histological subtypes. Here we report rare variant of RCC which include Oncocytic variant of papillary renal cell carcinoma (OPRCC).
Case report: A middle age male presented with pain in left flank and decreased urine output. CECT Abdomen revealed a well defined solid cystic mass lesion arising from inferior polar cortex of the left kidney measuring 10.9 x 9.4 x 9.8 cm. Left radical nephrectomy was performed and the specimen was sent for histopathological examination and show features of oncocytic variant of papillary renal cell carcinoma.
Conclusion: The importance of this case report is to identify the rare variants of the histological subtypes of RCC as it confers high propensity of metastasis and hence less chance of survival. OPRCC is regarded as an independent subtype of PRCC not only for its distinct pathological features but also for its indolent clinical behaviour and the tumor presents with same immunophenotypic as of type 2 but same genetic features and prognosis as of type 1 PRCC.

Keywords: Renal cell carcinoma, oncocytic variant of papillary renal cell carcinoma

Introduction
Renal Cell Carcinoma (RCC) is the most common type of kidney cancer, accounting for 3% of all malignancies and 85% of all malignant kidney tumors [1]. The histological classification is of utmost importance, considering the significant prognostic and therapeutic implications of these histological subtypes. Here we report rare variant of RCC which include Oncocytic variant of papillary renal cell carcinoma (OPRCC).

Case report
A middle age male presented with pain in left flank and decreased urine output. CECT Abdomen revealed a well defined solid cystic mass lesion arising from inferior polar cortex of the left kidney measuring 10.9 x 9.4 x 9.8 cm. Left radical nephrectomy was performed and the specimen was sent for HPE. Gross- C/S of kidney showed a hemorrhagic, circumscribed, encapsulated tumour mass in lower pole measuring 10x9x6 cm (Fig.1). On microscopy, tumor comprised predominantly of papillae lined by tumour cells exhibiting abundant granular eosinophilic cytoplasm & round vesicular nuclei with tiny nucleoli (Fig.2). The fibro vascular core showed foamy Histiocytes and hemosiderin deposition.

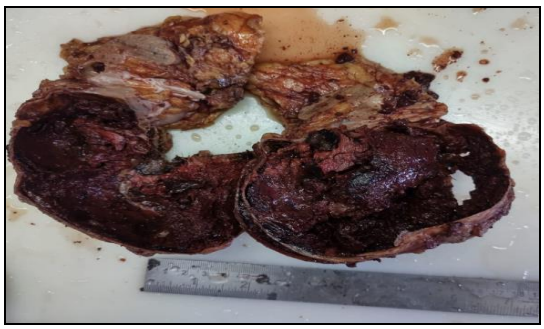

Fig 1: Cut surface of kidney with tumor located over the inferior pole

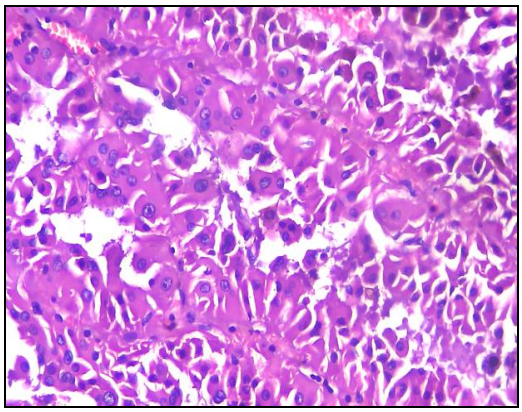

Fig 2: H & E, 40 X magnification. Papillary arrangement with lining epithelium show abundant eosinophilic cytoplasm with nuclear atypia.

Discussion

OPRCC is a rare variant of RCC with overlapping features of type1 (low nuclear grade and a single layer) and type 2 (abundant eosinophilic cytoplasm) Papillary renal cell carcinoma (PRCC). It is regarded as an independent subtype of PRCC not only for its distinct pathological features but also for its indolent clinical behavior [2]. The carcinoma often poses differential diagnostic problems with renal Oncocytoma and has similar immunohistochemical properties to the common type of PRCC [3].

Conclusion

The importance of this case report is to identify the rare variants of the histological subtypes of RCC as it confers high propensity of metastasis and hence less chance of survival. OPRCC is regarded as an independent subtype of PRCC not only for its distinct pathological features but also for its indolent clinical behaviour and the tumor presents with same immunophenotype as of type 2 but same genetic features and prognosis as of type 1 PRCC.

Reference

1. Dhote R, Pellicer-Coeuret M, Thiounn N, Debre B, Vidal-Trecan G. Risk factors for adult renal cell carcinoma: A systematic review and implications for prevention. BJU international. 2000 Jul;86(1):20-7.
2. Han G, Yu W, Chu J, Liu Y, Jiang Y, Li Y, *et al*. Oncocytic papillary renal cell carcinoma: A clinicopathological and genetic analysis and indolent clinical course in 14 cases. Pathology-Research and Practice. 2017 Jan 1;213(1):1-6.
3. Mai KT, Kohler DM, Robertson SJ, Belanger EC, Marginean EC. Oncocytic papillary renal cell carcinoma with solid architecture: mimic of renal oncocytoma. Pathology international. 2008 Mar;58(3):164-8.
4. Guo Q, Liu N, Wang F, *et al*. Characterization of a distinct low-grade oncocytic renal tumor (CD117-negative and cytokeratin 7-positive) based on a tertiary oncology center experience: the new evidence from China, Virchows Archive; c2020
5. Perrino CM, Grignon DJ, Williamson SR, Idrees MT, Eble JN, Cheng L. Morphological spectrum of renal cell carcinoma, unclassified: an analysis of 136 cases, Histopathology. 2018;72(2):305-319.
6. Williamson SR, Gadde R, Trpkov K, *et al*. Diagnostic criteria for oncocytic renal neoplasms: A survey of urologic pathologists, Human Pathology. 2017;63:149-156.
7. Trpkov K, Abou-Ouf H, Hes O, *et al*. Eosinophilic Solid and Cystic Renal Cell Carcinoma (ESC RCC), The American Journal of Surgical Pathology. 2017;41(10):1299-1308.

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