

as parathyroid carcinoma, ovarian clear cell carcinoma, and clear cell papillary cystadenoma of the epididymis.¹¹ PAX-8 is a nephric-lineage transcription factor that is essential transcription factor for organogenesis of the thyroid gland, kidney, and Mullerian system.¹⁵ PAX-8 positivity has also been reported in the neuroendocrine tumors of the pancreas and gastrointestinal tract.¹⁶ In the limited number of cases of TLFCK that have been published in the literature, nuclear grooves and pseudoinclusions have not been reported,¹⁻³ except for a case report by Angell *et al.*¹⁸ We found rare nuclear grooves in the cytology smear preparation from our case. Carcinoid tumors also come in the differential diagnosis of TLFCK. Rare foci of gland like formation with eosinophilic secretions forming minority of the tumor component can be seen in carcinoid tumors. In difficult cases immunohistochemical stains synaptophysin and chromogranin can be of help. The colloid-like material in TLFCK is thought to be composed of Tamm-Horsfall glycoprotein, which is different from thyroglobulin that comprises most of the material in the thyroid follicles.¹⁷

It is important for a cyto and surgical pathologist to be aware of this primary renal entity and its cytologic and histopathologic features. This shall enable accurate diagnosis, and avoid confusion with metastatic thyroid cancer for the proper management of the patient. Appropriate usage of immunohistochemical stains on the cytology cell block material may prove useful to render a correct diagnosis.

In conclusion, TLFCK is a relatively rare and distinct renal neoplasm that should be distinguished from its malignant mimickers such as follicular carcinoma of thyroid, and less importantly from carcinoid tumor. Although the overall prognosis is favorable, recurrence and metastases of TLFCK may occur. Therefore, a correct diagnosis of a primary renal neoplasm versus a metastasis would help in the decision making for the accurate management of the patient.

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