

Mixed Epithelial and Stromal Tumor of the Kidney – A Case Report in a 45 Year Male

Ramya G.^{1*}, Sowmya S.²

¹Post graduate, ²Professor and Head, Department of Pathology

Sri Manakula Vinayagar Medical College and Hospital, Kalitheerthalkuppam, Madagadipet, Puducherry- 605107 INDIA.

*Corresponding Address:

ramya2path@yahoo.co.in

Case Report

Abstract: Mixed epithelial and stromal tumor of the kidney is a recently recognised renal tumor characterized histologically by a mixture of stromal and epithelial proliferation. It is a rare benign neoplasm of the kidney that should be distinguished from other renal neoplasms. Although there is a female preponderance in the available literature, we have encountered this entity in a male patient. The patient presented with unilateral renal mass, which was thought to be hydronephrosis on pre-operative ultrasonogram. However, the histopathological features of the nephrectomy specimen revealed MEST.

Keywords: Benign, Male, MEST, Renal tumours.

Introduction

Mixed epithelial and stromal tumours (MEST) was first identified by Michal and Syrucek in 1998[1]. It is a rare neoplasm of kidney[2] which can present either as cystic or solid lesion, or both. This tumour typically presents in middle aged female as a flank mass. In a recent study most of the cases were incidentally identified histopathologically and these tumors revealed biphasic growth pattern comprising mesenchymal and epithelial elements with characteristic estrogen and progesterone receptor immunoreactive mesenchyme, reminiscent of ovarian stroma[3]. Malignant transformation, recurrence and metastasis are rare. A case with translocation t(1,19) has been described in a recent study. We present a case of MEST in a 45 year old male patient in contrast to the other studies.

Case Report

A 45 year old male presented with flank pain and a palpable mass on the left side with no change in urine output. Clinically a diagnosis of non-functional kidney was made. Ultrasound showed a cystic mass in the left kidney suggestive of hydronephrosis. Nephrectomy was done soon after, and the specimen was received at Pathology department. Macroscopic appearance of the kidney, which measured 11X7X5 cm showed an irregular and cystic consistency. On cut section, multiple cystically dilated spaces filled with blood tinged fluid were seen, with a peripherally compressed renal parenchyma. The pelvi-ureteric junction was found to be patent but

narrowed. Extensive sampling, especially from resected margins, was taken. Microscopically, renal parenchyma showed abortive and dilated glomeruli in the cortex with few sclerosed glomeruli (Figure 3). Foci of periglomerular fibrosis were also noted. The tubules showed flattening of the lining with thyroidization (Figure 1). The interstitium showed lymphocytic infiltration with edema and dilated lymphatic spaces. Blood vessels were found to be thickened and medullary region showed multiple aggregates of mature adipocytes, bundles and fascicles of smooth muscles, hypertrophic nerve bundles and small abortive tubules (Figure 2). The surgically resected margins and ureter showed normal histology.

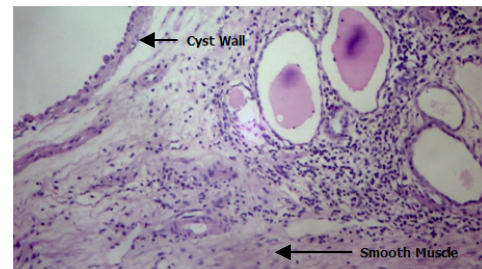


Figure 1: Cyst wall with edematous stroma showing renal tubules with thyroidization and proliferation of smooth muscle cells (H&E; 20X)

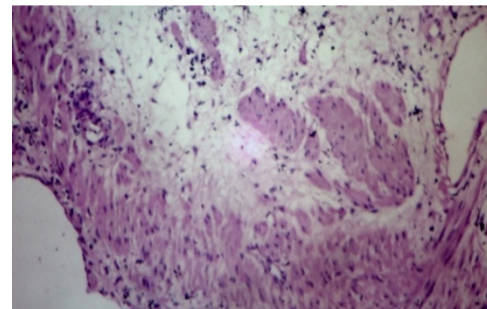


Figure 2: Cyst wall surrounded by smooth muscle proliferation & myxoid stroma (H&E; 20X)

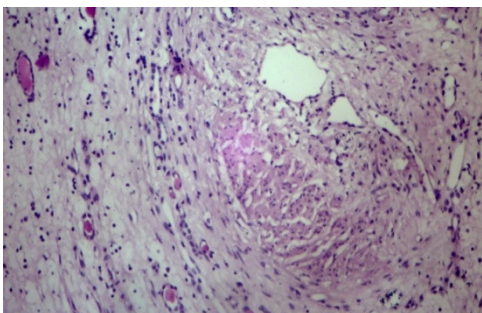


Figure 3: Abortive tubules with myxoid stroma & smooth muscle proliferation (H&E; 20X)

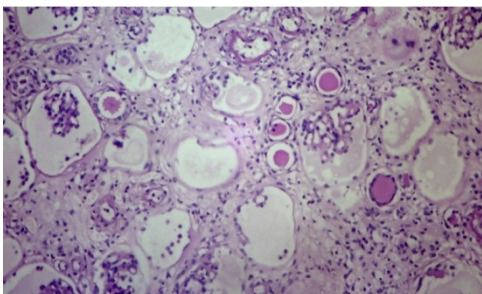


Figure 4: Cystically dilated glomeruli with tiny papillary tufts of arterioles with thyroidization of tubules (H&E 20X)

Discussion

Mixed epithelial and stromal tumour is a rare benign tumour and it is mostly identified incidentally by either imaging or histopathological evaluation of resected kidney with cystic lesions. MEST is a cystic lesion that may include solid areas and is biphasic, composed of both epithelial and stromal components. There is a female preponderance of patients with MEST in an approximate F: M ratio of 6:1 which could be attributed to long term hormone replacement therapy, particularly estrogen [4]. It is also found in men with prolonged estrogen therapy or hormonal therapy for prostate cancer. Because of these findings, it has been suggested that the hormonal environment plays a role in the development of these tumors [4]. This case is unique in that it was identified in a 45 year old male with no history of estrogen exposure or treatment for prostate cancer. The major differential diagnosis with MEST is Cystic nephroma (CN). There are similarities between CN and MEST in their clinical behavior, morphology of both the epithelial and stromal components, and immunohistochemical profiles although with variation in individual categories with higher prevalence of stromal to epithelial ratio [5]. CN tumors are more likely to have larger cysts, thinner septa, and a lower stromal-to- epithelial ratio. Other diagnoses are considered to include congenital mesoblastic nephroma (CMN), and multicystic clear cell renal cell carcinoma

(CC-RCC). CMN is distinct from MEST in that it usually presents as a solid mass with an infiltrating interface with the renal parenchyma and microscopically composed of small round cells. Multicystic clear cell - Renal cell carcinoma differs from MEST in that it contains aggregates of clear cells and lacks the stromal component [6].

Conclusion

MEST is a rare and distinct neoplasm of the kidney that should be distinguished from other renal neoplasms. Although the overall prognosis is favorable, recurrence and malignant transformation of MEST can occur, and it is difficult to distinguish benign or malignant nature on imaging studies. It is only an incidental finding, therefore, histopathological findings are mandatory to differentiate this benign lesion from malignant transformation. And it should be considered as a possible diagnosis in cases of cystic renal mass especially those who have received hormonal therapy.

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