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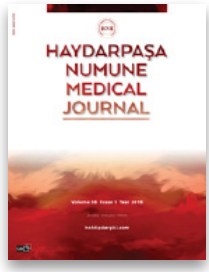

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CASE REPORT

A Rare Kidney Tumor: Mucinous Tubular and Spindle Cell Carcinoma

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Abstract

Mucinous tubular and spindle cell carcinoma is a rare renal tumor. The first trip was described in 1998. It has been reported in the literature as single or small case series. This tumor with good prognosis is usually low grade. We present another case of this rare unusual entity with its clinocopathological features.

Keywords: Low grade; mucinous tubular carsinoma; rare renal tumor; spindle cell carcinoma.

Mucinous tubular and spindle cell carcinoma (MTSCC) is a rare renal tumor that has been recently described. It accounts for less than 1% of Renal Cell Carsinoma(RCC)s and approximately 100 cases have been reported to date. The World Health Organization (WHO) was examining this tumor under the subtype of RCC which was not previously classified in the classification of renal tumors. It was accepted as a separate variant of renal cell carcinoma in the WHO classification in 2004 [1, 2]. MTSCCs are two times more common in women than men and affect a wide range of ages [3].

MTSCCs originate from the loops of Henle and distal collecting ducts [6]. MTİHK is a polymorphic renal epithelial tumor in which cuboidal cells are seen together with spindle cells in mucinous stroma. They are histopathologically characterized by tubules or papillary structures consisting of spindle cells or cuboidal cells within the mucinous stroma [7, 10]. In this study, we aimed to present a rare case with very few single case or case series in the literature with its clinical, radiological and histopathological features and differential diagnosis.

Case Report

A 75-year-old female patient with no comorbidity other than old age was evaluated with nonspecific flank pain. Physical examination was not diagnostic. Routine laboratory examinations revealed no pathological findings except creatinine elevation (1.23, eGFR: 43 ml/min/m^2, CKD 3). Office-based ultrasonography showed a well-circumscribed solid hyperechogenic mass in the lower pole of the left kidney. Magnetic resonance imaging (MRI) of the mass; the left renal lower pol posterior 35x30 mm nodular mass with weak heterogeneous contrast enhancement was reported as renal cell carcinoma (RCC) (Fig. 1) and the patient

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underwent left laparoscopic nephron-sparing surgery with a preliminary diagnosis of RCC.

Specimen macroscopic examination revealed a 33x30x27 mm hemorrhagic cream-yellow colored well-circumscribed mass. Microscopic examination revealed a tumor with a low degree of nuclear features in the mucinous stroma consisting of eosinophilic cytoplasmic cells with spindle or cuboid shaped papillae and tubular structures. (Figs. 2, 3) Immunohistochemical examination showed focal reaction in tumor cells with CD10, CD31, Cytokeratin. Vimentin, AMACR, Pancytokeratin, Epithelial membrane antigen was observed in tumor cells. Reaction was observed in histiocytes with CD68. Periodic acid schiff alcian blue showed focal reaction (Fig. 4).

There was no tumor at the surgical margin of renal parenchyma. No tumor invasion was observed in perinephritic fatty tissue and renal capsule. No lymphovascular invasion was observed. No local recurrence or metastasis was detected in the follow-up period of 6 and 12 months. The pathological stage was evaluated as T1N0M0.

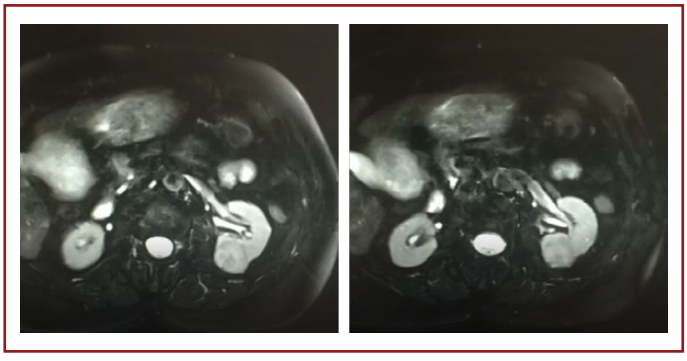

Figure 1. Solid mass heterogeneously enhancing in the lower posterior pole of the left kidney.

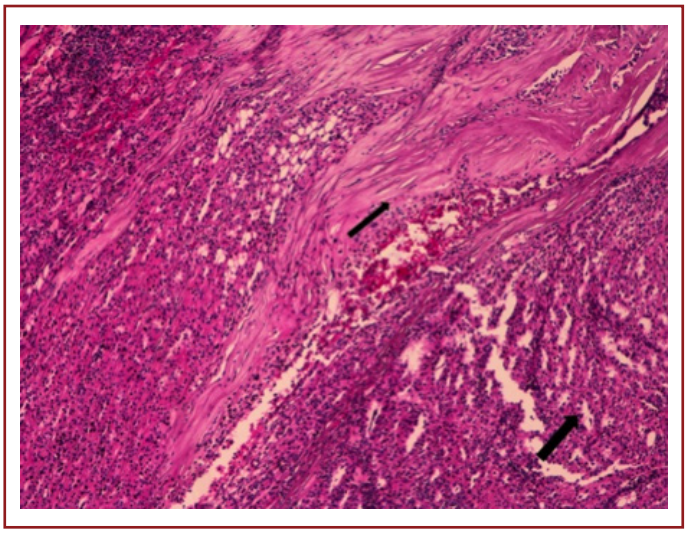

Figure 2. Mucinous area of mucinous tubular and spindle cell carcinoma (Thin arrow) and tubule-like structures (Thick arrow) (Hematoxylin-eosin x10).

Discussion

Mucinous Tubular Spindle Cell Carcinoma (MTSCC) was first reported by Parwani et al. [2] in 1998, are rare renal tumors [6]. Patients may present with complaints of renal pain, hematuria, which may cause anemia, as may be clinically presenting as no symptoms, as in our case. It has also been reported that this tumor may be associated with renal calculi [3]. There are several epidemiological studies on MTSCCs. Ferlicot et al. observed that the age range at the time of diagnosis was 21-81, the mean age was 53, and the female/male ratio was 2/1 [4]. Sarsık et al. [5] reported that the age range of the cases was 33-69 and the mean age

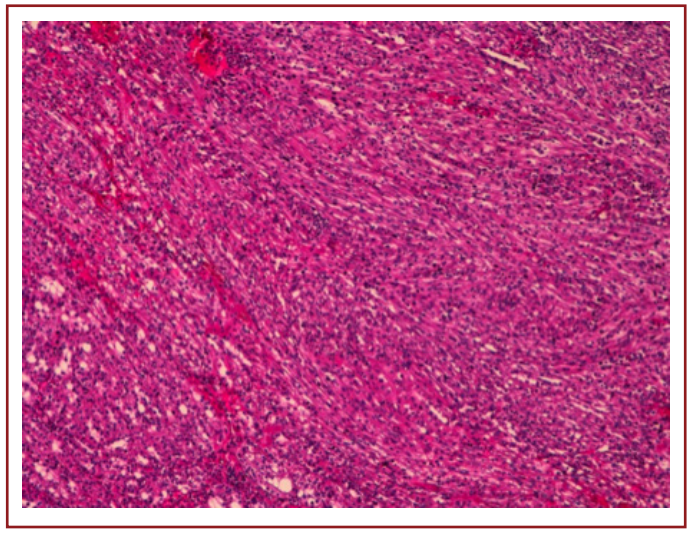

Figure 3. Spindle cell area of mucinous tubular and spindle cell carcinoma (Hematoxylin-eosin x10).

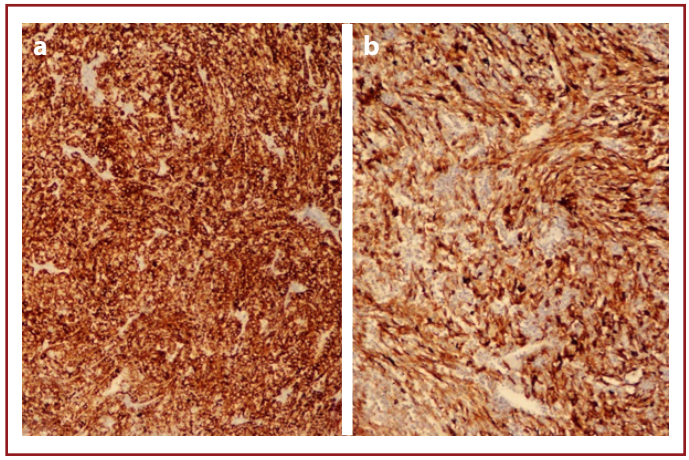

Figure 4. (a, b) Immune reaction with AMACR **(a)** and pancytokeratin **(b)** in tumor tissue (x20).

was 51. According to the WHO classification in 2004, the age range of the cases was 17-82 years and the mean age was 53 years, and it was reported that these tumors were 4 times more common in adult women than men [1]. In our case, the patient was a 75-year-old woman. Macroscopically, the tumor was 2.2-12.0 cm (average 7.2 cm) in diameter; well-limited, usually localized in the medulla, gray-white or skin-yellow color [1, 6 , 7]. The tumor specimen in the presented case was observed as a well-circumscribed cream-yellow colored mass with a size of 3.3x3x2.7 cm.

It has been reported to originate from MTSCC, loop of Henle or distal collecting canal [1]. It has been reported that sarcomatoid differentiation, metaplastic bone formation, neuroendocrine differentiation areas and psammomatous calcification may be seen microscopically. In addition, mucin-poor cases have been reported in the literature [6, 8, 9]. As this may complicate the diagnosis of a rare tumor, it may be necessary to be careful in the differential diagnosis and to get help from immunohistochemical examination in such cases. MTSCCs are characterized by the presence of tubules or papillary structures in the mucinous stroma, consisting of cords of spindle cells or cuboidal cells. Musine is histochemically stained with Alcian Blue (pH 2.5) [7, 10].

In our case, a tumor with a low degree of nuclear features was observed in the mucinous stroma, which consisted of papilla-like and tubular structures, spindle or cuboid shaped, eosinophilic cytoplasm cells. Immunohistochemical examination showed focal reaction in tumor cells with CD10, CD31, Cytokeratin. Vimentin, AMACR, Pancytokeratin, Epithelial membrane antigen was observed in tumor cells. Reaction was observed in histiocytes with CD68. Focal reaction was observed with periodic acid schiff alcian blue.

Surgical resection is the most appropriate treatment option for MTSCCs. Their prognosis is quite good compared to other aggressive RCCs. Chemotherapy and radiotherapy are not needed after surgical treatment in these low-grade tumors. However, it has been reported that they do not cause local recurrence and distant metastasis [3, 12]. However, it has been reported in the literature that these tumors can metastasize to lymph node [6]. In our case, local recurrence and distant metastasis were not observed during the follow-up (12 months). Nevertheless, further interpretation of the prognosis of these tumors is still difficult. Long-term studies with more patients are needed for this. In conclusion, we think that it is beneficial to differentiate these tumors from more aggressive tumors in terms of treatment follow-up.

Informed Consent: Approval was obtained from the patients.
Peer-review: Externally peer-reviewed.

Conflict of Interest: None declared.

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