

Case Report

Sarcomatoid Renal Cell Carcinoma: A Rare Case Report

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Abstract

Sarcomatoid renal cell carcinoma (SRCC) is an aggressive variant of renal cell carcinoma. It is thought to originate predominantly from clear cell carcinoma through de-differentiation. It is a rare entity constituting about 1-5% of all renal malignant neoplasms and is more commonly associated with conventional (clear cell) renal cell carcinomas. We report a case of 62 years old male who presented with complaints of haematuria and abdominal pain. The histopathology confirmed sarcomatoid renal cell carcinoma.

Key words

Sarcomatoid carcinoma, Renal cell carcinoma.

Introduction

Sarcomatoid renal cell carcinoma (SRCC) is currently defined in the 2004 World Health Organization (WHO) classification of renal tumors as any histologic type of renal cell carcinoma (RCC) containing foci of high grade malignant spindle cells [1].

Sarcomatoid tumors are characterized by a relatively high incidence of metastases to the

lung and bone at presentation [2]. Positive immunohistochemical markers in these tumours include AE1/AE3, epithelial membrane antigen, and vimentin which supports epithelial origin [3]. Sarcomatoid carcinomas signify a poor prognosis [4].

Case report

A sixty two year old male presented with the history of abdominal pain and haematuria. The

ultrasound and CT scan showed a renal mass. Laparotomy was performed and the nephrectomy specimen was sent for histopathology.

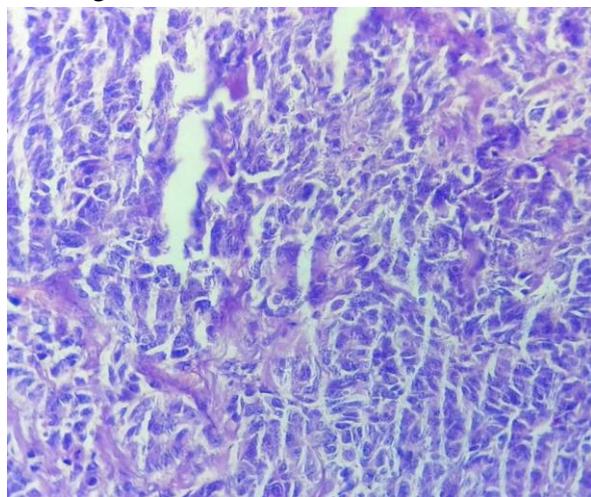
Gross examination

The kidney was measuring 19x18x10cm. A mass was seen at upper and lower pole of size 4x4.5 cm and 3x2.5 cm respectively on outer surface of kidney.

Microscopic examination

It was a malignant neoplasm composed primarily of spindle cells with round and oval cells. At places, It showed glandular pattern (**Figure - 1**). The cells show marked nuclear pleomorphism and very high mitotic activity. The Fuhrman Nuclear grade was G4. The tumor show extensive infiltration in perinephric fat and show invasion of renal pelvis. Overall picture was suggestive of sarcomatoid renal cell carcinoma (**Figure - 1**).

Figure – 1: 40X view of H&E stained section showing sarcomatoid renal cell carcinoma.



Discussion

Many studies have defined a tumor as sarcomatoid renal cell carcinoma (SRCC) if even a small amount of sarcomatoid differentiation is present [5], whereas other studies have excluded tumors with a sarcomatoid component less than 20% of the tumor volume or less than one microscopic low-power (10X) field in size. However, some evidence exists of increased risk

associated with sarcomatoid components comprising 5-10% of total tumor volume [6], indicating that even small amounts of sarcomatoid differentiation may be clinically relevant and should be included in the pathology report [7].

Little information is available on genetic alterations in sarcomatoid renal cell carcinoma (SRCC). Mutations of the *p53* tumor suppressor gene are reported to be more prevalent in sarcomatoid components (79%) compared with clear cell components (14%) of sarcomatoid renal cell carcinoma (SRCC) arising from clear cell renal cell carcinoma (CCRCC) [8]. Ultrastructural findings show frequent desmosomal junctions, confirming the epithelial nature of the neoplasm [9].

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