Case Report

Sarcomatoid Carcinoma of Prostate: Report of an Unusual Tumor

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Abstract: Prostatic sarcomatoid carcinoma (SC) is an extremely rare type of malignant tumor of prostate. A 57 years old man presented to the outpatient department with lower urinary tract symptoms and altered bowel habits. Clinical assessment revealed a stony hard prostate with normal serum prostate specific antigen (PSA). Histopathology of the prostatic biopsy revealed spindle cell tumor with brisk mitosis. Immunohistochemistry showed positivity with cytokeratin and vimentin in these cells, an uncommon finding, clinching the diagnosis of SC.

Key Words: Prostate, Sarcomatoid carcinoma, Cytokeratin, Aggressive

Introduction
Sarcomatoid carcinoma (SC) is one of the rare malignancies of the prostate, which comprises of malignant epithelial and mesenchymal components [1,2]. It is also known by different names such as spindle cell carcinoma, carcinosarcoma (CS), metaplastic carcinoma and malignant mixed mesodermal tumor [2]. In the prostate, it may occur spontaneously or after treatment of an adenocarcinoma, usually of the acinar type. This transformation is supposedly associated with over expression of p53 gene [3]. Less than 100 cases have been reported so far in the English literature in the form of case reports or small case series to the best of our knowledge. [1]. Because of the paucity of cases, little is known about the optimal treatment strategy. However it is known to have an aggressive behavior with an extremely poor prognosis [3,4]. Surgical resection has been recommended for the localized diseases and non-surgical treatments (hormonal, radiation or chemotherapy) are generally associated with poor outcomes. [5] Herein we report an uncommon case of SC of prostate in a 57-year-old man.

Case History: A 57 years old man hailing from coastal Karnataka presented to Urology outpatient department with complaints of increased frequency and urgency of micturition since the past 4 months. He also complained of altered bowel habits since 1 month. He denied any habit of smoking or alcohol intake. Digital rectal examination revealed a stony hard prostate with grade II prostatomegaly. Inguinal lymph nodes were not palpable and family history of prostatic cancer. There was no history of haematuria in the past. He denied any habit of smoking or alcohol intake. Digital rectal examination revealed a stony hard prostate with grade II prostatomegaly. Ultrasound abdomen revealed grade II prostatomegaly with indentation of bladder base. Bilateral kidneys and ureters were normal.

In view of the history and per rectal findings, a transrectal trucut biopsy of the prostate was done. [Figure 1A] Histopathological examination revealed two linear prostatic tissue bits with tumor composed of spindle shaped cells arranged in discohesive sheets. The cells had eosinophilic cytoplasm, indistinct cytoplasmic borders, spindled to pleomorphic nuclei with few showing distinct nucleoli. Moderate to severe nuclear pleomorphism and brisk mitotic activity were noted. The spindle and pleomorphic cells were seen infiltrating the collagenous stroma. Cells with epithelial differentiation such as acinar/gland formation was absent in the biopsy. Perineural invasion is noted. A diagnosis of prostatic sarcoma/spindle cell tumor was suggested with a Gleason score of 10 (5+5). However, immunohistochemistry (IHC) with cytokeratin (CK) and vimentin showed positivity in the spindle shaped tumor cells, which clinched the diagnosis of SC of the prostate.
Sarcomatoid carcinoma of the prostate is a rare biphasic malignant neoplasm composed of admixture of malignant epithelial and spindle cell component or sarcomatous differentiation of the epithelial component. [1,2,4] It is a rare malignancy of the prostate but can occur at other sites such as head and neck, kidney and lungs. [5]

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suggestive of extension to rectum. He, however, declined further treatment.

To conclude, SC is a highly aggressive variant of prostatic carcinoma that has diagnostic and therapeutic challenges. Our case highlights the significance of per rectal examination compounded with biopsy, histopathology and IHC in the diagnosis of this subtype, since the tumor marker levels were not elevated. Lack of PSA elevation leads to delay in diagnosis of the localized stages of this malignancy. There is no successful treatment for the late stages of these trunculent cancers; however, the general principle is curative surgical resection with adjuvant chemotherapy, and/or radiotherapy.

**References:**