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Case Report

A rare case report of a malignancy of prostate

Srivatsa Prakhya[1],*, Indu Mythili D[1], Jaya Bhaskar Reddy[1], Mukesh Agrawal[1]

[1] *Dept. of Anatomic Pathology, Vimta Labs Ltd, Hyderabad, Telangana, India*

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ABSTRACT

Carcinosarcoma of the prostate gland is a highly rare biphasic malignancy which is highly aggressive. Poor prognosis is a characteristic feature of this tumor. This malignancy is not a global phenomenon. Carcinosarcoma of the prostates occur de novo or following hormonal treatment or radiotherapy. It may be that lots of cases of are not detected and reported because many patients with castrate resistant carcinoma of prostate and patients with progressive carcinoma of prostate despite having had radiotherapy do not undergo repeat prostate biopsies to further assess the carcinomas and thus missing dedifferentiation of adenocarcinoma into other variants of prostate cancer.

1. Case Report

A 70 year old male presented to the out patient department at a hospital with complaints of loss of weight and difficulty in micturition. A related routine exam revealed a hard mass in the transitional zone of the prostate. No other significant history was noted. TURP was performed and the specimen was subjected to histological examination. The anatomic pathology department of our laboratory received multiple chips of the prostate aggregating to 20 grams all of which was processed for microscopy. Microscopic examination of the tissue revealed a highly malignant tumor with the composition of spindle cells with severe pleomorphism encircling prostatic glands with carcinomatous transformation. A diagnosis of a carcinosarcoma was arrived at with positivity of PanCK, PSA immunohistochemical markers (with DAKO antibodies/anti mouse and rabbit monoclones) as shown in images.[1–6]

2. Discussion and Review of Literature

The case presented here reveals the straight forward clinical diagnostic importance. Per rectal examination findings combined with biopsies have 100% success rate in these malignancies as per our review of the literature. In this case, a differential diagnosis of leiomyosarcoma was also considered owing to the cellular morphology but was ruled out with immunohistochemical markers. The etiology is unknown and there were no osseous components of metaplasia usually seen in such cases. The causative factor in this case warrants further investigation.

Regarding the carcinogenesis of prostatic carcinosarcoma there were the following proposed; 1) incidental occurence 2) de-differentiation of immature stem cells 3) transformation from adenocarcinoma into sarcoma 4) transformation from sarcoma into adenocarcinoma 5) tumor differentiation due to radiotherapy and hormonal therapy effects.

Hansel and Epstein have performed several works in relation to this malignancy. Hansel and Epstein examined specimens of the prostate gland which were obtained by means of trans-urethral resection, needle biopsy of prostate and radical prostatectomy from 42 patients who had been diagnosed as having sarcomatoid carcinoma of the prostate gland.[6] PSA levels are usually within normal range in sarcomas of prostate. A possible explanation for this lack of elevated PSA is that the tumor cells have "dedifferentiated" to a cell type that expresses a much

* *Corresponding author.*
E-mail address: srivatsa.prakhya@vimta.com (S. Prakhya).

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smaller, and perhaps abnormal, prostatic specific antigen. Similar results have been reported for serum prostatic acid phosphatase. Dedifferentiated and undifferentiated cancer cells especialy in cases such as these and have no capacity to raise serum PSA levels. Therefore, only a small number of patients have an elevated serum PSA level.[5]

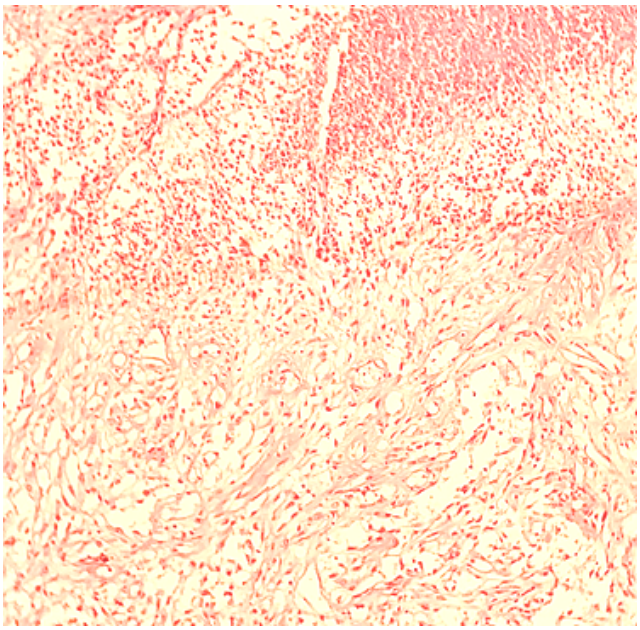

Fig. 1: 40x Hematoxylin & Eosin – carcinosarcomatous element of biopsy

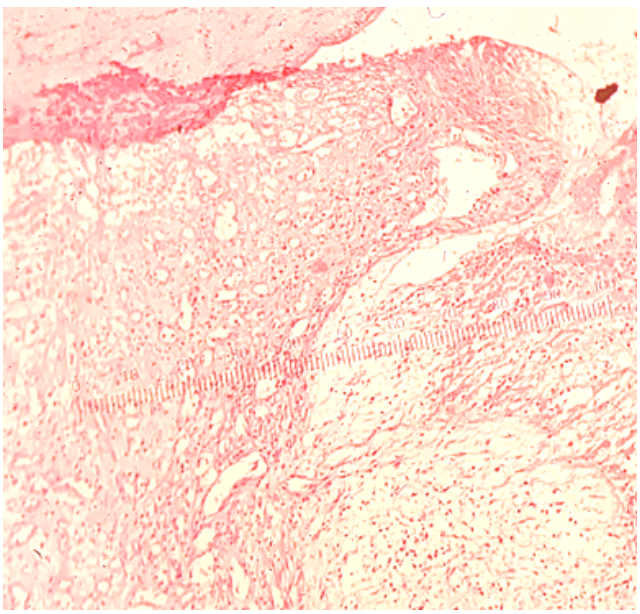

Fig. 2: 40x Hematoxylin & Eosin – carcinosarcomatous element of biopsy

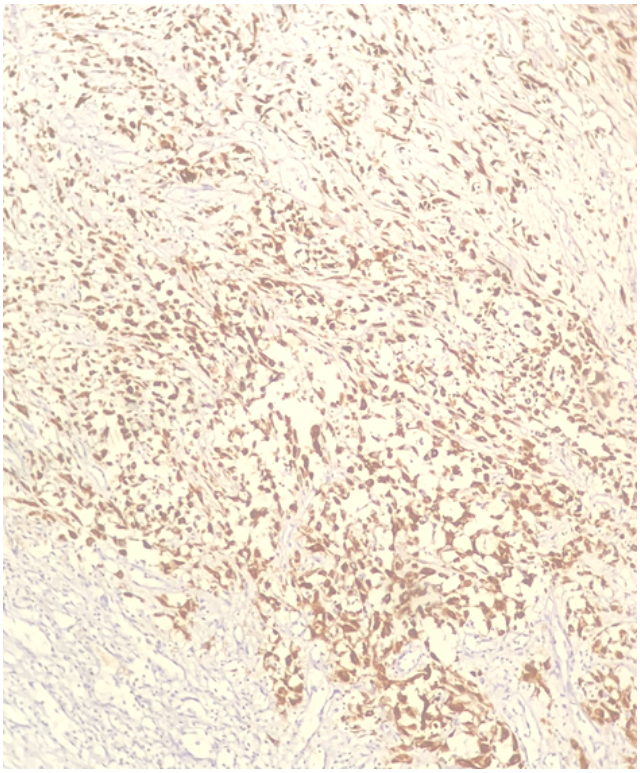

Fig. 3: 40x Immunohistochemistry – PanCK positivity

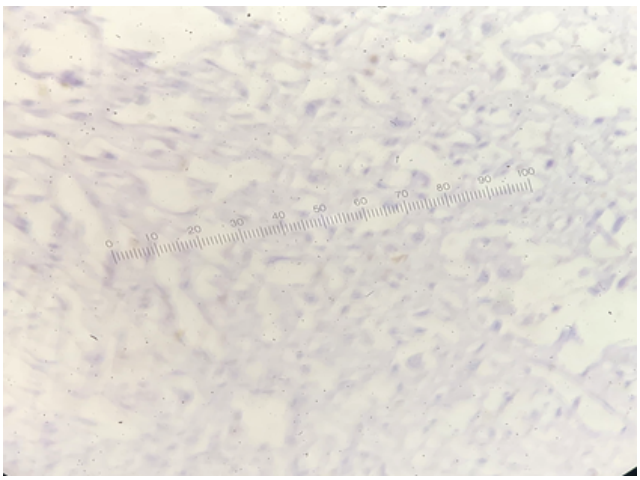

Fig. 4: 40x Immunohistochemistry – PSA negative

When the sarcomatoid carcinoma diagnosed, in about 25% of cases have metastasis. The most frequent site of metastasis was the lung. As per Weiss and Enzinger et al.[2] radiation therapy, antiandrogen therapy, histologic subtype, necrosis rate, grade of sarcoma are not predictive to estimate overall survival. Only negative surgical margins and the absence of metastasis have a positive effect on survival. If the carcinosarcoma spreads to the whole prostate tissue survival is reported to be about six months.[3]

A plausible overiew of the literature is underplaying the role of the carcinosarcoma of the prostate gland when it comes to its rarity. The prevalence of case reports appears to be gradually increasing with time, though whether this phenomenon is due to the increased utilization of therapeutic protocols hypothesized to play a causative role in the development of carcinosarcomas[3] or, instead, merely to an increased recognition and reporting of this rare diagnostic entity, is unclear from the scope of this review. Notwithstanding, from our review and evaluation of the literature, we found that all carcinosarcomas of the prostate, once diagnosed, regardless of their etiology - spontaneous, after conventional therapy or after radiation therapy-appear to behave in a similar manner, with frequent metastasis and poor outcome and c-myc oncogene elaboration.

As per our conclusion, this type of malignancy is highly rare post review of the literature. They also seem to highly agressive, spreading and aggressive with not enough case numbers to define a course of standard management. TURP and needle biopsy diagnoses combiend with PSA testing are golf standard. Large-scale researches in the future will be better to recognize the carcinosarcoma and shed light on the most appropriate treatment method. Better research and genetic studies are warranted to reduce the incidence of such deadly morbid tumors.

3. Source of Funding

None.

4. Conflict of Interest

None.

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Author biography

Srivatsa Prakhya Pathologist

Indu Mythili D Pathologist

Jaya Bhaskar Reddy Consultant Pathologist

Mukesh Agrawal Laboratory Director

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