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Pathology

MESENCHYMAL TUMOR LEIOMYOSARCOMA OF PROSTATE, A RARE CASE REPORT

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ABSTRACT Primary prostate sarcoma is a rare malignancy of the prostate with poor prognosis. It accounts for <1% of the tumors of the prostate. Leiomyosarcoma is the most common sarcoma involving the prostate in adults affecting men between the ages of 40 and 78 years. Tumor cells commonly express vimentin, smooth muscle actin and desmin, and up to 25% express cytokeratins.

KEYWORDS : Prostate sarcoma, leiomyosarcoma, mesenchymal tumour

INTRODUCTION

True mesenchymal neoplasms of the prostate make up <1% of the tumors occurring in this anatomical location [1]. Sarcomas of the prostate accounts for 0.1% to 0.2% of all malignant prostatic tumors [2]. Leiomyosarcoma is the most common sarcoma involving the prostate in adults, affecting men between the ages of 40 and 78 years. Although prostatic stromal proliferations/neoplasms represents the most commonly considered mesenchymal tumor at this site, solitary fibrous tumor, myofibroblastic proliferations smooth muscle neoplasm, gastrointestinal stromal tumors, schwannomas, rhabdomyosarcoma , post radiation sarcomas and mixed epithelial stromal tumors of the seminal vesicle may all be encountered in prostate biopsies.

Here we present a case of rare mesenchymal tumor Leiomyosarcoma of prostate.

Case report:

We report a case of 69 years male came to our pathology department for review of the blocks of TURP chips of prostate. He was complaining of nocturia, frequency and hematuria. MRI prostate revealed a prostate volume of 100cc.His PSA level was 8.77ng/ml. From outside he was diagnosed with prostatic adenocarcinoma 4+3=7/10. Histopathological examination of blocks and slides was done. On microscopic examination (fig.1 a and b) section examined show haphazardly arranged fascicles of spindle shaped tumor cells. The tumor is exhibiting marked nuclear pleomorphism. The individual tumor cells have round to elongated hyperchromatic nucleus and having moderate amount of eosinophilic cytoplasm with indistinct cell boundaries. Also noted are many bizarre forms, multinucleated giant cells, atypical mitosis alongwith presence of focal areas of necrosis. An occasional bit shows normal appearing glands and fibromuscular stroma. The stroma is infiltrated by chronic inflammatory cell infiltrate comprising of lymphocytes and plasma cells.

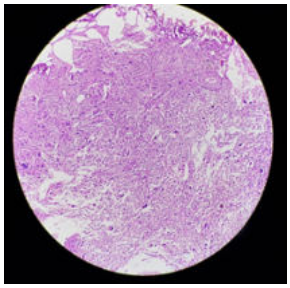


Figure 10X

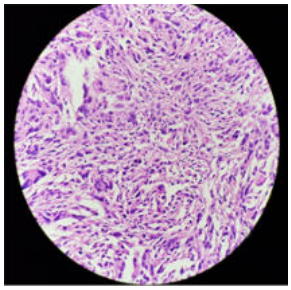
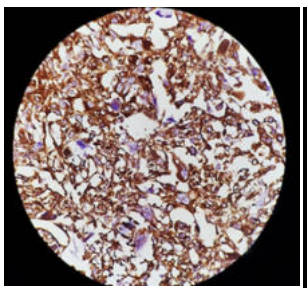
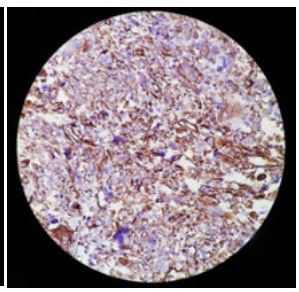


Figure 20X

IHC analysis showed strong positivity of Vimentin (figure 2) and Desmin (figure 3) and myogenin was negative.



Vimentin



Desmin

DISCUSSION:

Primary prostate sarcoma is a rare malignancy of the prostate with poor prognosis. Less than 200 cases have been reported in the literature globally [3]. It originated from the mesoderm in the reproductive period, and its risk may be related to prostatitis, perineal trauma, previous prostate biopsy and radiation induced. The different histological subtypes are divided into prostate leiomyosarcoma, rhabdomyosarcoma, fibrosarcoma and spindle cell sarcoma [4]. Among sarcomas, rhabdomyosarcomas of the prostate occur in the pediatric population with an average age at diagnosis of 5years [5]. It is a sarcoma with skeletal muscle differentiation. Prognosis is poor and patient dye of metastatic disease. Leiomyosarcoma is a rare malignant smooth muscle tumors and accounts for <0.1 % of all prostate malignancies [1]. It mostly occurs in the elderly. On transrectal ultrasonography, a markedly enlarged volume and irregular margins are important characters of prostate sarcoma. Tumor cells commonly express vimentin, smooth muscle actin and desmin and up to 25% express cytokeratins [6]. Patients have a median survival of 17 months. Overall prognosis is poor and 50%-75% of patients die of cancer within 2- 5 years [7]. Stromal tumor of uncertain malignant potential and stromal sarcoma are rare. Most stromal tumors of uncertain malignant potential do not exhibit aggressive behavior. These tumors express CD34 which distinguish it from rhabdomyosarcoma and leiomyosarcoma.

Other mesenchymal tumors like benign and malignant peripheral nerve sheath tumor, osteosarcoma, hemangioma, granular cell tumor, solitary fibrous tumor, chondrosarcoma and synovial carcinoma.

CONCLUSION:

Primary prostate sarcoma is a rare malignancy of the prostate with poor prognosis.

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