



## SOLITARY FIBROUS TUMOR OF PROSTATE – A CASE REPORT

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**ABSTRACT** Solitary Fibrous Tumor (SFT) of prostate is an unusual mesenchymal neoplasm. We report SFT in a 62 year-old man which was clinically misdiagnosed as benign prostatic hyperplasia (BPH). The specimen of surgically resected two prostate mass, we received were solid grey-white nodular on cut surface. Based on histopathological findings and IHC assessment, a diagnosis of SFT was made. In addition, we review the literature and discuss the challenging issues of misdiagnosis. The case is presented in view of its rarity.

**KEYWORDS :** Immunohistochemistry, prognosis, Prostate, Solitary Fibrous Tumor.

**INTRODUCTION:-**

Solitary Fibrous Tumor(SFT) is a spindle cell tumor derived from myofibroblasts, most commonly found in pleura.<sup>[1]</sup>

Prostate SFT is relatively uncommon with less than 20 cases reported in the literature worldwide.<sup>[2]</sup> It represents a clinical challenge with other spindle cell lesion of prostate regarding both diagnosis and treatment.

**Case History.**

A 62 year-old male patient was presented with urinary frequency and urgency in Urology out patient department. The digital rectal examination revealed gross enlargement of prostate. The pelvic ultrasound examination also showed enlargement of median lobe of prostate compressing over the base of urinary bladder and there was mild hydronephrosis.

His hematological and biochemical parameters were within normal range and PSA level was also within normal range.

Based on clinical and radiological findings, the case was subjected to open prostatectomy.

Gross examination of the surgical specimen showed two irregular grey-white nodular masses measuring 7×5×4 cm and 6×5×4cm with focal grey-brown areas. Cut surface showed solid grey-white whorled areas and no necrosis or hemorrhages (Figure 1).



Fig 1. Cut section shows solid grey-white whorled areas.

Microscopic examination revealed a well circumscribed lesion consisting of proliferating fibroblasts along with thick, hyalinized blood vessels and few staghorn-like blood vessels. The lesion is enclosing few benign prostate glands. At the periphery of the tumor fibroblasts are admixed with smooth muscle cells. There is no evidence of abnormal mitosis or necrosis.(figure 2&3).

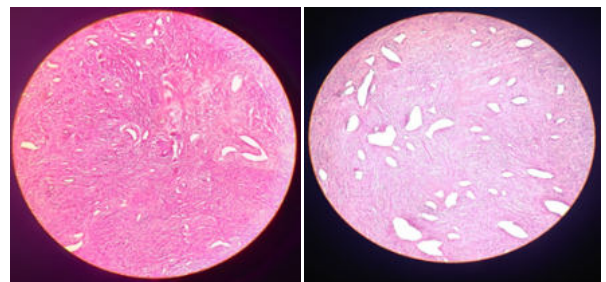


Fig 2. Microscopic findings(low power × 10) cellular area - proliferating fibroblasts and few staghorn-like blood vessels (H&E)

Fig 3. Microscopic findings(magnification × 40) multiple hemangiopericytoma-like blood vessels interspersed within the tumor (H&E)

Two blocks were sent for immunohistochemical study and they showed strong positivity for CD34 in blood vessels.

Based on microscopic findings and IHC profile, the mass was diagnosed as solitary fibrous tumor(SFT).

**DISCUSSION**

Although formerly believed to be restricted to pleura, tumors showing features of classical solitary fibrous tumors have been increasingly recognized in extrapleural sites<sup>3</sup> (peritoneum, retroperitoneum, mediastinum, nasopharynx, oral cavity, orbit, prostate and breast.) The waning popularity of diagnosis of hemangiopericytoma also coincided with increasing popularity of the diagnosis of SFT, a pleura based lesion first described by Kleumperer and Rabin.<sup>4</sup> The specific symptoms relate to the location of the tumor. Hypoglycemia has been reported in about 5% of SFTs, most often located in the pelvis and retroperitoneum. It is mediated through the production of insulin-like growth factors by the tumors.<sup>[1]</sup> SFTs grow in deep soft tissues as a circumscribed mass or as exophytic lesion from serosal surfaces. Most measures 5-10 cms in diameter and have grey-white to red-brown cut section. Hemorrhagic and cystic degeneration may be seen. SFTs are highly variable in appearance depending on the relative proportion of cells and fibrous stroma. Cellular type of SFT (corresponds to classical hemangiopericytoma) consists of tightly packed round to fusiform cells with indistinct cytoplasmic borders that are arranged around an elaborate vasculature. The vessels form a continuous, ramifying vascular network that exhibit striking variation in caliber. The dividing sinusoidal vessels have stag-horn or antler-like configuration.

Diffuse sclerosing pattern has paucicellular areas with prominent collagen fiber deposition and stromal hyalinization. Tangled network of fibroblast-like cells squeezed between abundant collagen fibers(patternless pattern of Stout). The cellular SFTs express CD34(80-90%), CD99(70%), Bcl<sub>2</sub>(30%), EMA(30%), actin(20%) immuno reactivity.<sup>[1&5]</sup>

**The differential diagnosis of SFT may include**

1. Fibrous histiocytoma – which usually displays a more prominent, more uniform spindle cell pattern with distinct storiform arrangement of tumor cells.
2. Synovial sarcoma – where CD34 expression is not seen.
3. Mesenchymal Chondrosarcoma – shows foci of well differentiated mature cartilage or ill defined foci of immature cartilage.<sup>[6]</sup>

Majority of SFTs are histologically benign. However a small percentage of cases possess atypical features like large size, increased mitotic activity (more than 4MF/10 HPF), high cellularity with pleomorphic tumor cells and foci of hemorrhagic and necrosis.<sup>[7]</sup>

Mesenchymal neoplasms of prostate are uncommon and pose a diagnostic difficulty because of their overlapping histomorphological features and IHC characteristics. SFT is considered as a least common mesenchymal neoplasm of prostate accounting for merely 30 cases globally.<sup>[2]</sup>

In the present case, the initial clinical examination and laboratory workup (normal PSA level) favoured the diagnosis of nodular hyperplasia of prostate. Based on histopathological and IHC evaluation of the specimen a diagnosis of SFT of prostate was rendered.

**CONCLUSION**

Solitary fibrous tumor of prostate can prove to be a diagnostic challenge for pathologist & clinician because it mimics other mesenchymal neoplasms. We report an additional case of prostate SFT which was initially misdiagnosed as BPH and histologically diagnosed as SFT of prostate.

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