

# Solitary Fibrous Tumor of the Spermatic Cord: Case Report

## Spermatik Kord Soliter Fibröz Tümörü

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**ABSTRACT** Solitary fibrous tumor is mainly a spindle cell neoplasm with a non-aggressive clinical course. It originates from surfaces floored with mesothelium such as pleura and peritonea. In recent years, attention has been drawn towards solitary fibrous tumors arising in extrathoracic sites such as the retroperitoneum, pelvis, meninges, periosteum, soft tissue and orbit. They are usually benign, mitosis are sometimes seen and recurrence is likely with larger size and/or histologically aggressive tumors. Pleomorphism and a high mitotic rate are assumed indicators for malignant solitary fibrous tumor. Concerning the therapeutic options for solitary fibrous tumor, it has been suggested that margin-free resection of the tumor is the most important determinant of the patient's clinical outcome. Here, we describe a rare case of benign fibrous tumor arising at the spermatic cord is discussed in the light of the pertinent literature.

**Key Words:** Solitary fibrous tumors; spermatic cord; urinary tract

**ÖZET** Soliter fibröz tümör esas olarak selim klinik gidişat gösteren işçi hücreli bir neoplazmdir. Plevra ve periton gibi mezotelyum ile kaplı yüzeylerden kaynaklanır. Son yıllarda retroperiton, pelvis, meninks, periost, yumuşak doku ve orbita gibi toraks dışı bölgelerden kaynaklanan soliter fibröz tümörlere ilgi artmıştır. Bu tümörler genellikle benignidir, mitoz bazen görülebilir ve nüksün büyük boyutlu tümörlerde ve/veya histolojik agresif tümörlerde görülmesi olasıdır. Pleomorfizm ve yüksek mitotik oran malign soliter fibröz tümör için bir gösterge kabul edilir. Soliter fibröz tümör için tedavi seçenekleri konusunda hastanın klinik gidişatının en önemli göstergesi olarak önerilen tümörün cerrahi sınır negatif olarak rezeksiyonudur. Biz burada spermatik korddan kaynaklanan nadir bir benign fibröz tümör olgusunu sunup ilgili literatür eşliğinde tartıştık.

**Anahtar Kelimeler:** Soliter fibröz tümörler; spermatik kord; üriner kanal

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Solitary fibrous tumor is a spindle cell neoplasm that was first reported in 1931 by Klemperer and Rabin. Tumors originally described as localized fibrous mesothelioma or submesothelial fibroma have recently become as 'solitary fibrous tumor'.<sup>1</sup> It is a well defined pathological entity originally described as a tumor of the pleura, but the occurrence of this neoplasm has increasingly been described at other sites such as peritoneum, retroperitoneum, pelvis, meninges, upper respiratory tract, orbit, salivary gland, thyroid, liver, urinary bladder, uterine cervix, labia minor, spinal cord, periosteum, soft tissue and the spermatic cord.<sup>1-5</sup> Solitary fibrous tumor of the spermatic cord was first reported by Fisher and Bisceglia.<sup>2</sup> Alt-

though this tumor is usually benign, malignant solitary fibrous tumors have also been reported.<sup>6,9-11</sup> Herein, we report rare urological entity with a fibrous tumor of the spermatic cord in the literature.

## CASE REPORT

A 21-year-old man was admitted to our outpatient clinic with a history of left scrotal mass which has been slowly enlarging for 2 years. Physical examination revealed a hard, nonfixed mass of 5 x 4 x 4 cms in the left spermatic cord. Other system examinations were normal. Laboratory analysis, including tumour markers ( $\alpha$ FP,  $\beta$ hCG and LDH), were all within normal ranges. Abdominal ultrasonography and chest radiography were normal. Scrotal sonography showed normal sized testicles and a heterogeneous mass of 5x4.1x4.2 cm in the left spermatic cord, which appeared to be in the spermatic cord. It was interpreted as a possible pedunculated fibroid tumor. The patient was informed about orchiectomy and his written approval was obtained before the surgery. During surgery, a firm, white-colored tumor was found to be adherent to the spermatic cord at the left scrotum neck plane (Figure 1). Intraoperative frozen section evaluation revealed spindle cell fibrous neoplasm. The vascular pediculated tumor was totally excised, preserving the cord and then testis was placed in scrotum and fixed. On gross examination, it was an encapsulated firm mass (Figure 2A) and the cut section was white with small haemorrhagic areas. The pathological evaluation revealed a solitary fibrous tumor of the spermatic cord. The patient is well without recurrence and signs of metastasis 9 months after surgery.

## DISCUSSION

This is a report of a scrotal mass in a young man with the typical morphology and immunoprofile of a solitary fibrous tumor. We report on, to the best of our knowledge, the fourth solitary fibrous tumor of the spermatic cord. A solitary fibrous tumor is a lesion of unknown etiology. It is a rare mesenchymal tumor entity commonly localized in the pleura.<sup>1</sup> It is derived from dendritic interstitial cells

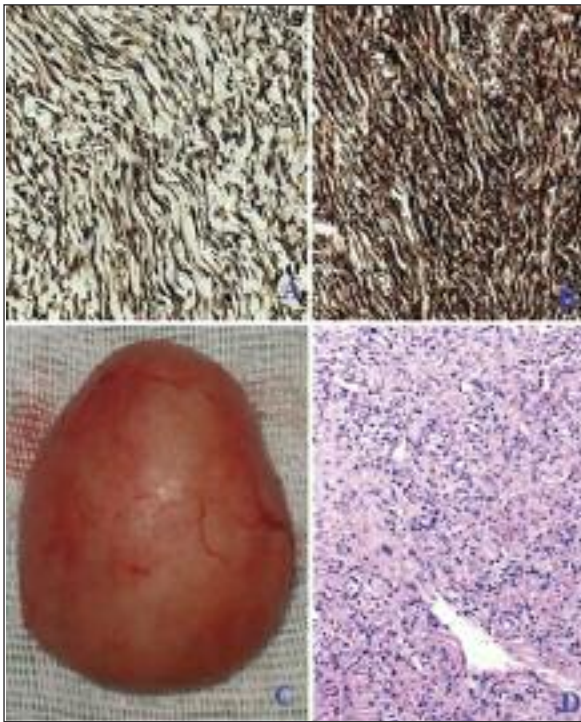


FIGURE 1: A hard mass of 5x4 cm in the spermatic cord.

that express CD34.<sup>7</sup> It is also known to occur in other extrapleural sites such as the central nervous system, gastrointestinal tract, nasal cavity, or breast.<sup>1</sup> In the urinary tract, manifestations have been described in prostate, seminal vesicle, spermatic cord, epididymis, kidney and bladder.<sup>2-4,7,8</sup>

Macroscopically, the tumor presents as covered with intact mucosa, like in our case (Figure 2A). The tumor reported herein was positive for CD34, vimentin and CD99 (Figure 2B, 2C). Mitosis was not detected. It was characterized by spindle cell proliferation in collagenous background with cells arranged in a patternless pattern with alternating cellular and hypocellular areas (Figure 2D).

The characteristic microscopic features of this neoplasm have been described as a "patternless" growth with a haphazard arrangement of bland-looking short spindle or polygonal cells with alternating hypercellular and hypocellular sclerotic foci, keloid-like stromal hyalinization and prominent branching vasculature.<sup>9</sup> Although they are usually benign, mitoses are sometimes seen and recurrence is likely with larger size and/or histologically aggressive tumors.<sup>6,9-11</sup> Pleomorphism and a high mitotic rate are assumed indicators for malignant solitary fibrous tumor; however, cases showing benign histology but with a malignant clinical course have also been reported. Therefore, the prognosis of extrapleural solitary fibrous tumor is not only predictable with histological patterns.<sup>6,10</sup>



**FIGURE 2:** Light microscopy and macroscopic appearance. **A:** Immunohistochemical staining for CD99 (HE x 400). **B:** Immunohistochemical staining for CD34. (HE x 400). **C:** Encapsulated firm mass **D:** Variable cellular spindle cell neoplasm (HE x 400).

Our patient is free of recurrence or distant metastases for 9 months now after surgery. However a careful, long-term follow-up is required in all these cases. Concerning the therapeutic options for solitary fibrous tumor, it has been suggested that margin-free resection of the tumor is the most important determinant of the patient's clinical outcome.<sup>10</sup>

The clinical behavior of solitary fibrous tumors involving genitourinary system has not been completely understood because the follow-up period of reported cases was short, large studies were not undertaken and the number of reported cases was also small. Insufficient data in our hands to do preoperative differential diagnosis of benign and malign solitary fibrous tumor of spermatic cord. In-

traoperative frozen section evaluation may be useful. The histopathological features of malignant solitary fibrous tumors include hypercellularity, marked nuclear pleomorphism, high mitotic rate and high proliferation index.<sup>6,9-11</sup> Margin-free, total resection of solitary fibrous tumors has been reported as the most important prognostic factor.<sup>10</sup> In cases with malignant features, follow-up is warranted, similar to cases of malignant solitary fibrous tumor of the pleura; it consists of yearly assessment of local recurrence by imaging, and additional abdominal and thoracal CT or MR imaging to assess the presence of metastatic disease.<sup>11</sup>

The solitary fibrous tumors and their metastases enhanced heterogeneously on MR imaging and CT, likely because of differential enhancement of the admixed cellular and collagenous components. The solitary fibrous tumor with malignant histologic features was indistinguishable on imaging studies from the histologically benign tumors.

Fibrous tumor of the spermatic cord is a rare entity in the urology practice. The number of cases in the literature about genitourinary system solitary fibrous tumor is not excess. Increasing the number of cases will provide a better debate and reduce the confusion and doubts in clinicians mind about diagnosis, treatment and follow-up. We present clinical observations for contribution to the literature. We present a rare scrotal mass factor. Clinicians should keep in mind such a rare tumor in the differential diagnosis of a scrotal mass and intraoperative frozen section evaluation may prevent orchiectomy due to suspicion a testicular tumor. We would like to express here that in tumors which are especially detected in paratesticular area and if tumors are surgically removable and if the mass is found to be solitary fibrous tumor after frozen section examination, only margin-free resection of the mass is sufficient and saves the patient from orchiectomy.

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