International Surgery Journal
Vyas M et al. Int Surg J. 2026 Oct;13(10):2036-2038
https://www.ijsurgery.com
pISSN 2349-3305 | eISSN 2349-2902

DOI: https://dx.doi.org/10.18203/2349-2902.isj20263367

Case Report

Solitary fibrous tumor of the mesentery: a rare presentation

Maharshi Vyas*, Manoj Mulchandani, Sarver Hussain

Department of General Surgery, Kokilaben Dhirubhai Ambani Hospital, Andheri West, Mumbai, Maharashtra, India

Received: 28 April 2026
Revised: 24 July 2026
Accepted: 01 September 2026

***Correspondence:**
Dr. Maharshi Vyas,
E-mail: maharshi.vyas.111@gmail.com

ABSTRACT

Solitary fibrous tumors (SFTs) are uncommon mesenchymal neoplasms that most frequently arise from the pleura but may occur at extrapleural sites, including the abdomen. Mesenteric SFTs are exceedingly rare and often present as slow-growing abdominal masses. We report a case of a large mesenteric SFT with intermediate-risk features, managed successfully by complete surgical excision. Diagnosis was confirmed by characteristic histopathological and immunohistochemical findings, including diffuse STAT6 and CD34 expression.

Keywords: Solitary fibrous tumors, Mesentry, STAT6, CD34 expression

INTRODUCTION

Solitary fibrous tumors (SFTs) represent a rare group of spindle-cell neoplasms of mesenchymal origin, comprising less than 2% of all soft tissue tumors.[1,2] Although classically arising from the pleura, extrapleural SFTs have been described in various locations, including the retroperitoneum, liver, deep soft tissues, and mesentery.[3,4] Mesenteric SFTs remain particularly rare, with limited cases reported in the literature.[5,6]

Their clinical presentation is often non-specific, and imaging findings may overlap with other soft-tissue tumors. Histopathology and immunohistochemistry-especially detection of nuclear STAT6, a surrogate marker for the NAB2–STAT6 fusion are essential for diagnosis.[7-9] Here, we describe a rare case of a large intermediate-risk mesenteric SFT.[5]

CASE REPORT

A patient presented with a gradually enlarging, painless abdominal lump over several months, without associated gastrointestinal symptoms. Clinical examination revealed a firm intra-abdominal mass. Contrast-enhanced CT imaging demonstrated a well-defined enhancing soft-tissue lesion arising from the mesentery. The patient underwent elective surgical resection of the mass.

Operative findings

A well-circumscribed, encapsulated mesenteric tumor was identified and excised in its entirety. No evidence of local invasion or peritoneal deposits was noted.

Gross pathology

The specimen measured 10 cm in maximum dimension. The cut surface was tan-white and firm, with focal hemorrhage and areas of necrosis.

Microscopic findings

Histologic examination revealed a spindle-cell neoplasm arranged in a patternless architecture with collagenous stroma and hemangiopericytoma-like vasculature. Additional features included: Mitotic activity: 3-4/10 HPF, necrosis: 7-8%, hemorrhagic foci present, no infiltration of adjacent adipose tissue, margin: tumor <1 mm from inked margin at focal area.

Immunohistochemistry

Tumor cells exhibited: diffuse positivity: STAT6 and CD34, negative: SMA, CD117, DOG-1, S-Melan A, calponin, pancytokeratin, EMA, SDH-B: Retained, Ki-67 index: 8-9%.

The morphological and immunophenotypic profile confirmed Solitary Fibrous Tumor, intermediate-risk category.

Postoperative course

The immediate postoperative period was uneventful. Follow-up imaging showed no early recurrence. The patient was advised long-term surveillance due to intermediate-risk features and the focally close resection margin.

Treatment recommendation

For primary therapy, surgery is considered complete (close but negative margin). No immediate adjuvant therapy recommended. Chemotherapy is not indicated.

Radiotherapy is not routinely recommended for abdominal SFT; consider only if recurrence occurs or if margins were positive (they are not in this case). Re-excision is optional, only if technically easy and low-risk. In the mesentery, re-excision is often not practical and close follow-up is preferred.

Follow-up and surveillance plan

Because SFTs can recur even after many years, long-term follow-up is mandatory. Suggested schedule include for the first 3 years-CT or MRI abdomen/pelvis every 6 months. Chest CT annually (lungs are common metastasis site). After 3 year-CT/MRI abdomen/pelvis once yearly. Chest CT every 1-2 years. After 10 years-continue annual surveillance for life.

Prognosis

Most intermediate-risk SFTs are curable with surgery with a recurrence rate of 10–20% depending on margins and mitotic rate. Metastasis risk of low-to-moderate (typically lung >liver). Survival is generally excellent with proper follow-up (Figure 1).

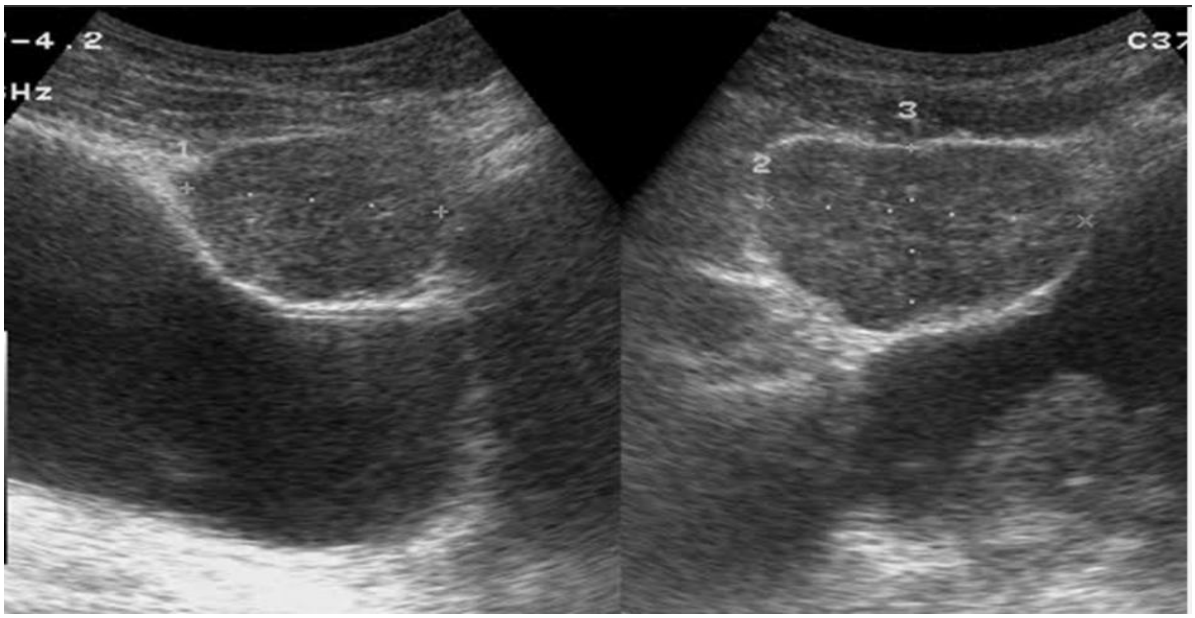

Figure 1: Radiological imaging.

DISCUSSION

SFTs are rare soft tissue tumors that can occur virtually anywhere in the body. Mesenteric involvement is extremely uncommon, with only sporadic cases documented.[1,5,6] SFTs typically affect adults between the fourth and sixth decades and may present with non-specific symptoms such as abdominal discomfort or a palpable mass.[10,11]

Histologically, SFTs show a "patternless" architecture with alternating cellularity, thick collagen bands, and characteristic branching vasculature.[2,12] Immunohistochemistry is indispensable in diagnosis: STAT6 nuclear positivity is highly specific and sensitive for SFT and results from the NAB2–STAT6 gene fusion.[7-9] CD34 positivity is common but not specific.[9,12] Negative staining for markers such as DOG-1 and CD117 helps exclude GIST.[12]

Risk stratification is critical to guide follow-up. The Demicco et al model uses patient age, tumor size, mitotic count, and necrosis to categorize tumors into low, intermediate, or high-risk groups for metastasis.[13,14] In

this case, the size (10 cm), low mitotic rate, and focal necrosis place the tumor in the intermediate-risk category.

Complete surgical excision with clear margins is the mainstay of therapy.[10,12] Local recurrence and metastasis, though uncommon, may occur particularly in larger or higher-risk tumors.[10,13] Therefore, long-term surveillance is recommended.[12,14]

CONCLUSION

Mesenteric solitary fibrous tumors are rare and pose diagnostic challenges due to their non-specific presentation and overlapping imaging features. Histopathology supported by STAT6 immunostaining is vital for diagnosis. Surgical resection is curative for most cases, but intermediate-risk lesions and close surgical margins require diligent follow-up to detect potential recurrence.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: None required

REFERENCES

1. Liu JN, Liu Z, Ji PY, Zhang H, Guo SL. Solitary fibrous tumor of the mesentery: a case report and review of the literature. J Int Med Res. 2020;48(10):300060520950111.
2. Gengler C, Guillou L. Solitary fibrous tumour and haemangiopericytoma: evolution of a concept. Histopathology. 2006;48(1):63-74.
3. England DM, Hochholzer L, McCarthy MJ. Localized benign and malignant fibrous tumors of the pleura: a clinicopathologic review of 223 cases. Am J Surg Pathol. 1989;13(8):640-58.
4. Ronchi A, Cozzolino I, Zito Marino F, Accardo M, Montella M, Panarese I, et al. Extrapleural solitary fibrous tumor: a distinct entity from pleural solitary fibrous tumor. An update on clinical, molecular and diagnostic features. Ann Diagn Pathol. 2018;34:142-50.
5. Bouhabel S, Leblanc G, Ferreira J, Leclerc YE, Dubé P, Sidéris L. Solitary fibrous tumor arising in the mesentery: a case report. World J Surg Oncol. 2011;9:140.
6. Vella S, Cannataci C, Cortis K. Solitary fibrous tumour of the mesentery: a case report. BJR Case Rep. 2018;4(1):20170057.
7. Robinson DR, Wu YM, Kalyana-Sundaram S, Cao X, Lonigro RJ, Sung YS, et al. Identification of recurrent NAB2-STAT6 gene fusions in solitary fibrous tumor by integrative sequencing. Nat Genet. 2013;45(2):180-5.
8. Chmielecki J, Crago AM, Rosenberg M, O'Connor R, Walker SR, Ambrogio L, et al. Whole-exome sequencing identifies a recurrent NAB2-STAT6 fusion in solitary fibrous tumors. Nat Genet. 2013;45(2):131-2.
9. Doyle LA, Vivero M, Fletcher CD, Mertens F, Hornick JL. Nuclear expression of STAT6 distinguishes solitary fibrous tumor from histologic mimics. Mod Pathol. 2014;27(3):390-5.
10. Gold JS, Antonescu CR, Hajdu C, Ferrone CR, Hussain M, Lewis JJ, et al. Clinicopathologic correlates of solitary fibrous tumors. Cancer. 2002;94(4):1057-68.
11. Penel N, Amela EY, Decanter G, Robin YM, Marec-Berard P. Solitary fibrous tumors and so-called hemangiopericytoma. Sarcoma. 2012;2012:690251.
12. Thway K, Ng W, Noujaim J, Jones RL, Fisher C. The current status of solitary fibrous tumor: diagnostic features, variants, and genetics. Int J Surg Pathol. 2016;24(4):281-92.
13. Demicco EG, Park MS, Araujo DM, Fox PS, Bassett RL, Pollock RE, et al. Solitary fibrous tumor: a clinicopathological study of 110 cases and proposed risk assessment model. Mod Pathol. 2012;25(9):1298-306.
14. Demicco EG, Wagner MJ, Maki RG, Gupta V, Iofin I, Lazar AJ, et al. Risk assessment in solitary fibrous tumors: validation and refinement of a risk stratification model. Mod Pathol. 2017;30(10):1433-42.

Cite this article as: Vyas M, Mulchandani M, Hussain S. Solitary fibrous tumor of the mesentery: a rare presentation. Int Surg J 2026;13:2036-8.