# Large hepatic solitary fibrous tumor necessitating intra-op massive transfusion protocol

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## Introduction

Solitary fibrous tumors are rare soft tissue tumors of mesenchymal origin. While the majority are intra-thoracic, these tumors can be found throughout the body. We report a rare case of a large solitary fibrous tumor in the liver, necessitating intraoperative initiation of massive transfusion protocol and vasopressors during two part left hepatectomy.

# Significance of this Case

- Fewer than 100 cases of solitary fibrous tumor of the liver have been reported.
- Imaging features are non-specific, thus accurate diagnosis relies on histopathological and immunohistochemical studies<sup>1</sup>
  - CD34+
  - Vimentin+
  - Bcl-2+
- Surgical resection necessitated initiation of massive transfusion protocol intraoperatively
- Two part "staged" excision of solitary fibrous tumor due to tumor size and need for better visualization

#### **Patient Presentation**

Our subject was a 72 year-old male with BMI 38.7 who presented to an outside hospital with acute RUQ pain, similar to a self-limiting episode he had had a month prior.

PMH: HTN, dyslipidemia, CAD, alcohol abuse (half bottle of wine every day)

**PSH:** cholecystectomy

A CT of the abdomen/pelvis revealed a large complex liver lesion measuring 27.9 x 15.5 x 22.2 cm, centered in the left lobe, confirmed by MRI. He was evaluated in clinic after receiving percutaneous IR biopsy with pathology showing solitary fibrous tumor and receiving CT a/p with contrast, with plans for a left hepatic lobectomy vs partial left hepatectomy. His liver function was preserved.

# **Operative and Hospital Course**

- Difficulty with mobilization of the liver and large mass requiring sequential resection; first segments 2 and 3; then 4a and 4b, and margin of caudate lobe.
- Pathology consistent with solitary fibrous tumor
- Vascular control of the liver impossible due to tumor size
- 18 L estimated blood loss, intraoperative products received: 26u pRBC, 18 FFP, 4 5-pack platelets, 3u cryo, 12L crystalloid
- Intraoperative ABGs, H/H, lactates, thromboelastogram used to guide resuscitation efforts
- POD #0: Transfer to SICU post-op and remained intubated. Hgb 10.3, Lac 2.1, Transaminases 191/116, bilirubin 3.6
- POD #1: Hgb stable, lactate normalized, transaminases down trending. Extubated, Sips of clears, Transferred to GMB in afternoon
- POD #2-4: CLD -> gen diet w/ return of bowel function, near resolution of AST/ALT/TB, discharged home.
- Follow up at 1 week: No issues. Discussed imaging and pathology at tumor board with plan for observation and surveillance CT at 3 months.
- Follow up at 3 month with surveillance CT: low attenuation along surgical bed c/f seroma vs residual tumor. MRI recommended which ruled out residual tumor.

**Pre-operative CT of hepatic SFT** 







### Discussion

- Given limited cases available, there is not a well-defined management algorithm for solitary fibrous tumor of the liver, although surgical excision appears to be the mainstay.
- Non-specific imaging findings results in diagnostic uncertainty, which can be better clarified by biopsy. However, some believe that biopsies should not be performed for risk of rupture or seeding if the mass is malignant or a hemangioma. Of the solitary fibrous tumors of the liver, roughly 18% are malignant<sup>2</sup>.
- If biopsy is performed, pathology shows high cellular proliferation of spindle cells, arranged in either storiform pattern or haphazardly<sup>1</sup>. Immunophenotype is positive for CD34, vimentin, and Bcl-2.
- With accurate diagnosis and an appropriate patient, surgical excision can be pursued.
- Following resection, there is limited evidence on what appropriate follow-up should be

### Conclusion

Hepatic solitary fibrous tumors are infrequently seen in practice and are often found incidentally on imaging. Management of these rare tumors is best done with a multidisciplinary approach and in selected patients, aggressive surgical resection is recommended with close follow up.

## References

- 1. Yugawa K, et al. Solitary fibrous tumor in the liver: case report and literature review. Surg Case Rep. 2019.
- 2. Chen N & Slater K. Solitary fibrous tumour of the liver report on metastasis and local recurrence of a malignant case and review of literature. World J Surg Oncol. 2017.