Sarcomatoid Hepatocellular Carcinoma: A Dangerous, Spindled Subtype of Hepatocellular Carcinomas

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INTRODUCTION

- Spindle cell hepatocellular carcinoma (SpHCC) and sarcomatoid hepatocellular carcinoma (SHC) are rare and unique variants of the more common hepatocellular carcinoma (HCC).
- SpHCC and SHC have been rarely reported despite HCC being one of the leading causes of liver cancer.
- SHC and SpHCC are aggressive, rapidly growing tumors with incredibly unfavorable prognosis.
- Risk factors and presentation clinically are similar to typical hepatocellular carcinoma except for SpHCC and SHC patients having low or normal AFP levels.
- The spindle cell variant occurred in approximately 2% of surgically resected HCC specimens.
- There is no standard treatment and prognosis is thought to be poor because metastasis is more common in these variants.

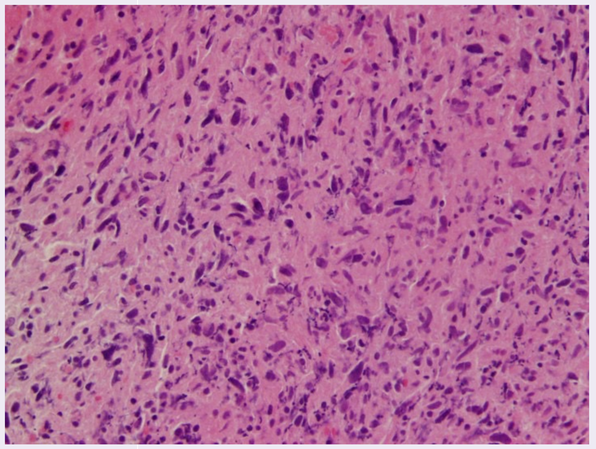
CASE DESCRIPTION

HPI	• 50 yo male patient with a past medical history of hypertension initially presented with complaints of abdominal pain over the past six weeks. • Patient additionally reported almost ten pounds of weight loss over the past two weeks with associated fatigue and bloody stools.
Social Hx **Family Hx**	• Denied alcohol, tobacco and recreational drugs. • No significant family history

DISCUSSION

- The SHC subtype of HCCs is rarely diagnosed (.09-.79%) and more cases are discovered during autopsy studies (3.9 – 14.3%).
- Diagnosis is challenging in these rare variants due to lab values of alpha-fetoprotein, bilirubin, liver function tests being typically lower than seen in traditional HCC.
- At the time of diagnosis, SHC and SpHCC variants have been found to show vascular and nearby organ invasion. Compared to HCC, SHC patients have larger tumor sizes, frequent necrosis, and more advanced tumors with higher incidence of lymph node involvement.
- Patients with these rare variants have been shown to have decreased survival rates and decreased response to chemotherapy.
- Variants have been seen with more relation to HCC secondary to transcatheter arterial chemoembolization, radiofrequency ablation.
- Similarly to HCC, patients with SHC are usually male between 58-62 years old. Clinical presentation is also similar with right upper quadrant pain, fatigue and weight loss.
- *Murata et al.* described a mutation of the TP53 gene in the epithelial and sarcomatoid cells of SHC which is a popular theory on the development of sarcomatoid cells.

LIVER BIOPSY



IMAGING/PATHOLOGY

- Triple phase computer tomography scan showed a hepatic mass with numerous multiloculated, multiseptated, bi-lobar changes.
- The mass in this case measured up to thirteen by eleven centimeters in size with compression and invasion of nearby vasculature with associated necrotic lymph nodes.
- A fine needle aspiration and core liver biopsy both performed that were suggestive of spindle cell carcinoma/carcinosarcoma.
- Pathology showed necrotic hepatocytes and multinucleated giant cells.
- Pathology also showed differentiated HCC cells along with a malignant spindle cell component containing tumor giant cells.

CONCLUSION

- Our patient's presentation with right upper quadrant abdominal pain, weight loss and fatigue is similar to HCC patients. The CT scan showed a suspicious looking, large hepatic mass. Upon liver biopsy, patient was diagnosed with sarcomatoid hepatocellular carcinoma.
- Our patient was discussed at multi-disciplinary tumor board where it was decided that he was not a surgical candidate due to vascular invasion and elevated risk of bleeding.
- Patient was started on carboplatin/gemcitabine regimen and plan to re-evaluate after four cycles.
- Unfortunately, the poor prognosis, adjacent invasion, and poor survival times despite chemotherapy show the need for better understanding of this subtype of HCC. A collaborative effort among different centers would allow for a better understanding and establish a more effective therapy for this extremely aggressive cancer.

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