

# PREOPERATIVE EMBOLIZATION TO REDUCE THE RISK OF HEMORRHAGE FOR HEMANGIOPERICYTOMA RESECTION

Arianna Mixon<sup>1</sup>, Nicole Kennard MS<sup>1</sup>, and Gerhard Maale MD<sup>1</sup>

<sup>1</sup>Dallas Fort Worth Sarcoma Group

**Background:** Hemangiopericytomas/solitary fibrous tumors (HPC/SFT), are rare, aggressive mesenchymal tumors that occur in the walls of capillaries with tendencies for local recurrence and distant metastasis. They are made up of spindle cells resembling the pericytes of Zimmerman, which surround vessels. These tumors have been described as benign or malignant, determined by the cellularity, mitotic activity, tumor necrosis, and infiltrative margins. Additionally, their vascularity and ability to violate multiple compartments increase risk of hemorrhage. There are cases describing patients losing up to 1.5L of blood during the time of resection.

**Question/Purpose:** The purpose of this study was to evaluate the effect of preoperative embolization of blood loss at the time of resection.

**Patients and Methods:** Three cases of HPC/SFT were retrospectively analyzed for blood loss at the time of the surgery following preoperative embolization the day before. Wide surgical resection was performed in all cases. All tumors were STAT6 and CD34 positive and demonstrated significant vascularity with large feeder vessels and dilated veins (figure 1 and 2). Each patient had ultrasound and fluoroscopic guided angiography for selection of the arteries supplying the HPC/SFT. Ultrasound guided Gelfoam and coil embolization were performed on the tumors. Post embolization angiography was done on all patients.

**Results:** There were 2 males and 1 female in our cohort with an average age of 65 years. One patient had a steal syndrome, but no high output cardiac failure. Post embolization angiograms showed significant decrease in vascularity of the mass with no evidence of complications for all three patients. The average blood loss ranged from 100-400cc with an average of 200cc.

**Conclusion:** The vascularity of HPC/SFT makes them difficult to treat. Preoperative embolization, like used in the treatment of renal cell carcinoma bone metastasis, seems to be an effective treatment for the highly vascular HPC/STS. It decreases vascularity and reduces the risk of hemorrhage.

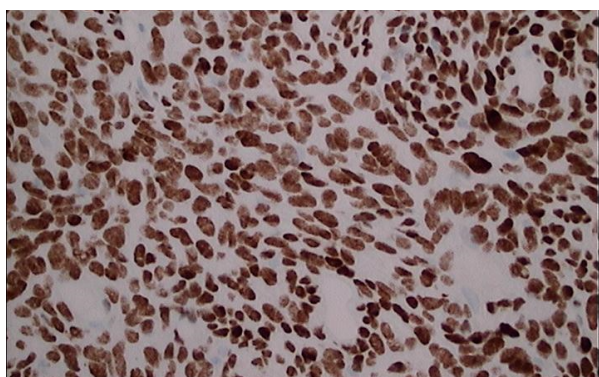


Figure 1: Histologic staining demonstrating positive STAT6.

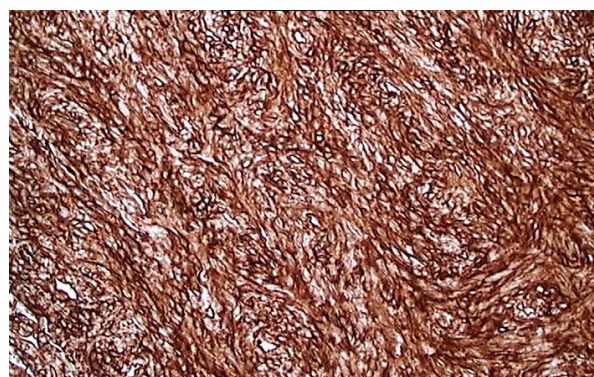


Figure 2: Histologic staining demonstrating positive CD34.

