Endovascular Embolization Reduces Blood Loss During Surgical Brain Tumor Resection

**PATIENT PRESENTATION**

- 37 year old woman, who got MRI as part of work up for her cervical spine problems.
- MRI revealed a brain mass, suspicious for a brain tumor – meningioma, in the posterior fossa (back of her brain).

**EVALUATION AND IMAGING**

- Dedicated brain MRI confirmed the diagnosis of meningioma, in the left posterior fossa (Fig. 1.)
- As part of pre-surgical treatment planning the patient has seen our service and pre-surgical angiogram and possible embolization was recommended.
- The goal of embolization will be to reduce operative blood loss and reduce operative time.

**INTERVENTION PERFORMED**

- Diagnostic catheter angiogram showed increased abnormal delayed capillary contrast filling in the area of the tumor (Fig. 2 and 3A).

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**Figure 1.** A. Contrast enhanced MRI, showing left paramedian enhancing mass, meningioma (white arrow).

B. Sagittal view, MRI, showing the meningioma (white arrow).
We advanced a microcatheter into the left posterior meningeal artery off the vertebral artery feeding the tumor. Contrast injection showed increased abnormal tumor blush (Figure 2.). From this position, we injected and embolized the tumor using PVA embolic particles. After the embolization, the last control angiogram confirmed decreased contrast tumor staining, suggesting decreased blood flow in the tumor.

The patient underwent successful resection the next day post-embolization with minimal blood loss. She was discharged home post-op day 3, neurologically intact at her baseline condition.