PROCEDURES:,1. Right frontal craniotomy with resection of right medial frontal brain tumor.,2. Stereotactic image-guided neuronavigation for resection of tumor.,3. Microdissection and micro-magnification for resection of brain tumor.,ANESTHESIA: , General via endotracheal tube.,INDICATIONS FOR THE PROCEDURE: ,The patient is a 71-year-old female with a history of left-sided weakness and headaches. She has a previous history of non-small cell carcinoma of the lung, treated 2 years ago. An MRI was obtained which showed a large enhancing mass in the medial right frontal lobe consistent with a metastatic lesion or possible primary brain tumor. After informed consent was obtained, the patient was brought to the operating room for surgery.,PREOPERATIVE DIAGNOSES: , Medial right frontal brain tumor with surrounding edema and mass effect and right to left brain shift.,POSTOPERATIVE DIAGNOSES: , Medial right frontal brain tumor with surrounding edema and mass effect and right to left brain shift, probable metastatic lung carcinoma.,DESCRIPTION OF THE PROCEDURE: , The patient was wheeled into the operating room and satisfactory general anesthesia was obtained via endotracheal tube. She was positioned on the operating room table in the Sugita frame with the head secured.,Using the preoperative image-guided MRI, we carefully registered the fiducials and then obtained the stereotactic image-guided localization to guide us towards the tumor. We marked external landmarks. Then we shaved the head over the right medial frontal area. This area was then sterilely prepped and draped.,Evoked

potential monitoring and sensory potentials were carried out throughout the case and no changes were noted.,A horseshoe shaped flap was based on the right and then brought across to the midline. This was opened and hemostasis obtained using Raney clips. The skin flap was retracted medially. Two burr holes were made and were carefully connected. One was placed right over the sinus and we carefully then removed a rectangular shaped bone flap. Hemostasis was obtained. Using the neuronavigation, we identified where the tumor was. The dura was then opened based on a horseshoe flap based on the medial sinus. We retracted this medially and carefully identified the brain. The brain surface was discolored and obviously irritated consistent with the tumor.,We used the stereotactic neuronavigation to identify the tumor margins.,Then we used a bipolar to coagulate a thin layer of brain over the tumor. Subsequently, we entered the tumor. The tumor itself was extremely hard. Specimens were taken and send for frozen section analysis, which showed probable metastatic carcinoma.,We then carefully dissected around the tumor margins.,Using the microscope, we then brought microscopic magnification and dissection into the case. We used paddies and carefully developed microdissection planes all around the margins of the tumor superiorly, medially, inferiorly, and laterally.,Then using the Cavitron, we cored out the central part of the tumor. Then we collapsed the tumor on itself and removed it entirely. In this fashion, microdissection and magnification resection of the tumor was carried out. We resected the entire tumor.

Neuronavigation was used to confirm that no further tumor residual was remained.,Hemostasis was obtained using bipolar coagulation and Gelfoam. We also lined the cavity with Surgicel. The cavity was nicely dry and excellent hemostasis was obtained.,The dura was closed using multiple interrupted 4-0 Nurolon sutures in a watertight fashion. Surgicel was placed over the dural closure. The bone flap was repositioned and held in place using CranioFIX cranial fixators. The galea was re-approximated and the skin was closed with staples. The wound was dressed. The patient was returned to the intensive care unit. She was awake and moving extremities well. No apparent complications were noted. Needle and sponge counts were listed as correct at the end of the procedure. Estimated intraoperative blood loss was approximately 150 mL and none was replaced.