Purpose: The use of endovascular devices for removal of acute intracranial thrombus is increasingly being performed due to its efficacy in recanalization, longer time windows and potentially improved patient outcome. Providing anesthesia for these patients who had an acute ischemic stroke emergently in the radiological suite presents unique challenges to the anesthesiologist. We undertook a review of the anesthesia management, complications and outcome in our patients who had undergone endovascular treatment for acute thrombotic stroke.

Clinical Features: After local IRB approval, we reviewed and analyzed the medical records of 38 consecutive patients treated between December 2006 and June 2011 in our institution. Data collected included the patients’ demographics, presenting GCS, preoperative risk factors and time interval between presentation to procedure. The anesthesia records were examined for hemodynamic stability and presence of any complications. Discharge location, length of stay, modified Rankin Score on discharge and mortality were also recorded. A total of 35 records were examined. Three records were incomplete and data were excluded. Two procedures were abandoned after induction of anesthesia as a result of unfavorable anatomy. Posterior circulation occlusion occurred in 16 patients (48%) and anterior circulation occlusion in 19 patients (58%). Median GCS at induction was 11 (range 3-15). Continuous arterial blood pressure was monitored for all the patients. 29 patients (88%) had their lowest recorded SBP < 140 mmHg. Four patients required significant amounts of vasopressors were administered for these patients. Other complications encountered during procedure include: clot migration in 3 patients, vessel perforation with contrast extravasation in 1 patient, vasospasm in 1 patient, new onset frontal bleed in 1 patient and re-occlusion in 1 patient. One patient developed severe bradycardia during the procedure and another patient developed ischemic ECG changes. 22 (67%) patients were sent to the intensive care unit ventilated. Median ICU stay was 3 days (1-9). Median modified Rankin Score was 4 (2-6) after the procedure. 4 patients (12%) had MRS score of <2 on discharge. All cause mortality in these patients was 40%.

Conclusion: The urgency of revascularization of acute cerebral thrombosis allows the anesthesiologist little time to optimize the patients who oftentimes have multiple co-morbidities on top of the acute ischemic event. Recently, there were some controversial evidences to suggest that local anesthesia may be superior to general anesthesia for this procedure; possibly due to delay to treatment and more hypotension during general anesthesia [1-2]. Even with continuous arterial blood pressure monitoring, systolic blood pressure lower than 140 mmHg was commonly observed in our patients during the procedure. We were unable to correlate the occurrence of hypotension with the neurologic outcome. Neurologic complication and overall mortality remain high in this group of patient.

References: 1. Stroke 2010;41:1175-79
2. Anesthesiology 2012;116 (in press)