

**Conclusion** Distal middle cerebral artery thrombectomy with stent-retriever devices is achievable and can be safe and technically effective. Randomized controlled trials have not been performed to determine if thrombectomy in or distal to the M2-3 junction is more beneficial than other techniques, such as aspiration thrombectomy, intravenous thrombolysis, or maximum medical therapy.

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### E-130 INCIDENCE AND OUTCOMES OF LARGE VESSEL OCCLUSION STROKE AFTER CARDIAC SURGERY AT A MAJOR ACADEMIC MEDICAL CENTER

<sup>1</sup>D Wilkinson\*, <sup>1</sup>S Koduri, <sup>2</sup>J Burke, <sup>3</sup>J Gemmete, <sup>3</sup>N Chaudhary, <sup>4</sup>H Patel, <sup>1</sup>A Pandey. <sup>1</sup>Neurosurgery, University of Michigan, Ann Arbor, MI; <sup>2</sup>Neurology, University of Michigan, Ann Arbor, MI; <sup>3</sup>Radiology, University of Michigan, Ann Arbor, MI; <sup>4</sup>Cardiac Surgery, University of Michigan, Ann Arbor, MI

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**Background and purpose** Stroke is one of the most feared complications of cardiac surgery. Modern stent-retrieval techniques provide effective treatment for large vessel occlusive strokes. The purpose of this study was to 1) report the incidence of large vessel occlusive stroke after cardiac surgery at a large academic center, and 2) describe outcomes after post-operative large vessel occlusive strokes (LVOs) associated with cardiac surgery.

**Methods** All patients experiencing stroke within 30 days after undergoing cardiac surgery via an open or endovascular approach at a major academic medical center in 2015–2017 were reviewed. LVOs were identified through review of imaging and medical records and their characteristics and clinical courses were examined.

**Results** Over the study period, 4,209 cardiac surgeries, including endovascular procedures, were performed. Of 111 patients classified as having stroke, 8 had LVO. Two of the three patients who received mechanical thrombectomy returned to independent living, compared to only 1 of the 5 patients who did not undergo thrombectomy. In the 2 weeks following cardiac surgery, the rate of LVO was estimated at 200x that of the general population.

**Conclusion** Of patients undergoing cardiac surgery at an academic medical center, 0.2% (95% CI 0.1–0.4%) had LVO within 30 days. Cardiac surgery patients and their caregivers should be counseled about the warning signs of stroke, the importance of timely intervention, and how to seek emergency care in the postoperative period.

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### E-131 OUTCOMES OF MECHANICAL THROMBECTOMY FOR ACUTE ISCHEMIC STROKE IN NATIVE AMERICAN POPULATION: A PRELIMINARY STUDY

<sup>1</sup>A Ikram\*, <sup>1</sup>S Suriya, <sup>1</sup>M Farooqui, <sup>1</sup>O Owens, <sup>1</sup>A Alvarado Arias, <sup>2</sup>D Sorte, <sup>3</sup>A Carlson, <sup>4</sup>S Ortega-Guiterrez, <sup>1</sup>M Torbey, <sup>1</sup>A Zafar. <sup>1</sup>Neurology, University of New Mexico Health Sciences Center, Albuquerque, NM; <sup>2</sup>Neurosurgery, University of New Mexico Health Sciences Center, Albuquerque, NM; <sup>3</sup>Neurosurgery, University of New Mexico Health Sciences Center, Albuquerque, NM; <sup>4</sup>Neurology, University of Iowa Hospital, Iowa City, IA

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**Objectives** The primary objective of this study is to evaluate the difference in the functional and neurological outcomes after mechanical thrombectomy (MT) for an acute ischemic stroke (AIS), between Native Americans (NA) patients versus other ethnicities.

**Background** There is scarcity of data regarding outcome of MT in NA population. Considering the dynamics of the state of New Mexico and a diverse patient population, we evaluated the difference in outcome between NA patients with comparison group representing other ethnicities.

**Methods** This is a preliminary, observational retrospective case-control study. All NA patients who underwent MT for LVO from January 01, 2016 to December 31, 2018 at UNMH were included. Data was extracted from Cerner database at UNMH and was collected on secured Redcap™ database. Patients were categorized into NA vs comparison group (other ethnicities) into two groups, with the ratio of 1:4 respectively.

**Results** A total of 35 patients who underwent MT at UNMH for an AIS were included in analysis: seven NA and 28 controls. Nine patients (NA=7) were directly admitted through ED while 26 were transferred from outside hospitals (NA=6). Prevalence of vascular risk factors, including Hypertension, hyperlipidemia, Coronary artery disease, Diabetes Mellitus was noticeably higher in NA than the comparison group. There was no statistical difference in the two groups with regards to median time interval from last known well (LKW) to groin puncture, and from LKW to reperfusion. The mortality was 14% in NA group and 4% in the comparison group. The median NIHSS on discharge between NA and comparison group was 13 and 15.5, respectively. The median mRS at 6 months follow up was 1 in NA and 2 in comparison group, however this was not statistically significant.

**Abstract E-131 Table 1** Demographics and comorbidities of patients who underwent Mechanical Thrombectomy (MT)

	Natives with MT (N=7)	Comparison group with MT (N=28)
Mean Age	63	69
Gender	3(43%)	13 (46%)
- Female	4(57%)	15 (53%)
- Male		
Ethnicity	0 (0%)	19 (68%)
- Caucasian	0 (0%)	1 (4%)
- African	0 (0%)	6 (21%)
- Hispanic	7 (100%)	0 (0%)
- Native American	0 (0%)	2 (7%)
- Unknown		
OSH Transfers	6 (86%)	20 (71%)
TPA given	4 (57%)	18 (62%)
Medical History	6 (86%)	13 (52%)
- HTN	5 (71%)	4 (14%)
- HLD	2 (29%)	4 (14%)
- CHF	3 (43%)	2 (7%)
- CAD	0 (0%)	9 (32%)
- AF	3 (43%)	6 (21%)
- DM	2 (29%)	1 (4%)
- Previous IS	0 (0%)	0 (0%)
- Previous HS	2 (29%)	9 (32%)
- Tobacco use		

**Abstract E-131 Table 2** Baseline characteristics, timings and outcomes in patients undergoing Mechanical Thrombectomy (MT) for large vessel occlusion.

	Natives (N=7)	Comparison Group (N=28)
Clinical baseline	13	15.5
- Median NIHSS	15	15
- Median GCS	0	0
- Median Pre-stroke mRS	4 (57%)	18 (62%)
- Treatment with t-PA (%)		
Timing	170	220
- Median LKW – UNM arrival (min)	88	49
- Median UNM arrival – Groin puncture (min)	296	263
- Median LKW - Groin puncture (min)	348	346
- Median LKW- Reperfusion time (min)		
Outcomes	1	2
- Median mRS at 6 months	2	9
- Median NIHSS at discharge	7 (100%)	23 (82%)
- Successful TICl score 2b or 3 (%)	1 (14%)	5 (18%)
- Hemorrhagic transformation (%)	1 (14%)	1 (4%)
- Mortality (%)		

**Conclusion** This is the first ever descriptive study evaluating outcomes in NA patients undergoing MT. Prevalence of vascular risk factors in NA was noticeably higher compared to the comparison group. Our retrospective study showed that Native American patients similar functional and neurological outcomes for thrombectomy.

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### E-132 USING CUTTING-EDGE TECHNOLOGY TO REINFORCE BEST PRACTICE STROKE CARE

S Lang\*. Corazon, Inc., Pittsburgh, PA

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**Introduction/Purpose** There continues to be a lack of standard data management tools for neurovascular service lines and stroke programs. Many hospitals use ‘home-grown’ spreadsheets or upload to various registries which are designed more toward research initiatives than daily operations.

Installation of a dedicated Neurovascular Information System (NVIS) will result in improved efficiency, quality, and financial performance in operating a stroke program and/or neurovascular service line.

**Materials and methods** A small rural hospital in Pennsylvania installed a NVIS for daily use within its Primary Stroke Center. The NVIS was designed to support data entry and capture clinical data for process improvement, care standardization, and support stroke program growth. A commitment to move from retrospective data collection to near real-time data collection and analysis capitalized on the ability to adjust care for the next patient. The data from the NVIS was used to amplify opportunities for quality improvement and identify flaws in policies/procedures, care standards, and other program components. An effort to reinforce

best practice standards was initiated based on findings from the data.

**Results** The stroke care team used the data from the NVIS to identify and quickly and efficiently fix issues real-time versus addressing any problems months later after waiting for formal data registry reports. The following results were realized: an increased swallow screen compliance, increased use of the NIH assessment by ED physicians and front-line staff, an increase in t-PA utilization rate, an increase in the number of patients receiving t-PA within 60 minutes of arrival, an increase in the number of discharges to home, and an increase in the number of patients arriving by ambulance. Additionally, the chart abstraction times were decreased.

**Conclusion** Utilization of a dedicated NVIS reversed the narrative related to stroke program management and allowed program leaders to use this clinical infrastructure and accurate data to drive practice improvement and assist on-site staff to more effectively manage the care continuum from pre-admission through post-discharge.

**Disclosures** S. Lang: None.

### E-133 ADHERENCE TO ENDOVASCULAR TREATMENT GUIDELINES IN ACUTE ISCHEMIC STROKE: INSIGHTS FROM AN INTERNATIONAL MULTIDISCIPLINARY SURVEY

<sup>1</sup>J Ospel\*, <sup>2</sup>N Kashani, <sup>3</sup>A Wilson, <sup>4</sup>W Kunz, <sup>5</sup>P Sylwia, <sup>6</sup>B Baxter, <sup>7</sup>B Campbell, <sup>8</sup>U Fischer, <sup>9</sup>A Rabinstein, <sup>10</sup>S Yoshimura, <sup>11</sup>J Heo, <sup>12</sup>B Kim, <sup>13</sup>M Cherian, <sup>14</sup>F Turjman, <sup>2</sup>M Foss, <sup>2</sup>B Menon, <sup>15</sup>G Saposnik, <sup>2</sup>M Hill, <sup>2</sup>M Goyal, <sup>2</sup>M Almekhlafi. <sup>1</sup>Radiology, University Hospital Basel, Basel, Switzerland; <sup>2</sup>Radiology, University of Calgary, Calgary, AB, Canada; <sup>3</sup>University of Calgary, Calgary, AB, Canada; <sup>4</sup>Radiology, University Hospital Munich, Munich, Germany; <sup>5</sup>Sree Chitra Tirunal Institute for Medical Sciences and Technology, Thiruvananthapuram, India; <sup>6</sup>Radiology, Erlanger Hospital Chattanooga, Chattanooga, TN; <sup>7</sup>Neurology, Royal Melbourne Hospital, University of Melbourne, Melbourne, Australia; <sup>8</sup>Radiology, University Hospital Bern (Inselspital), Bern, Switzerland; <sup>9</sup>Radiology, Mayo Clinic Rochester, Rochester, MN; <sup>10</sup>Neurosurgery, Hyogo College of Medicine, Hyogo, Japan; <sup>11</sup>Neurology, Yonsei University, Seoul, Seoul, Korea, Republic of; <sup>12</sup>St. Mary's Hospital Seoul, Seoul, Korea, Republic of; <sup>13</sup>Radiology, Kovai Medical center, Tamil Nadu, India; <sup>14</sup>Radiology, Centre Hospitalier Universitaire de Lyon, Lyon, France; <sup>15</sup>Radiology, University of Toronto, Toronto, ON, Canada

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**Background** Several randomized controlled trials have provided level IA evidence for the efficiency of endovascular therapy in acute ischemic stroke. We assessed the adherence to current endovascular treatment guidelines in acute ischemic stroke according to geographical region, hospital setting, medical specialty and physicians' characteristics.

**Methods** An international cross-sectional survey of stroke physicians and interventionalists was conducted to understand their current practice and therapy decision-making in acute stroke. Participants were randomly assigned 10 cases out of a pool of 22 scenarios and asked how they would treat the patient. Adherence to the 2018 *Guidelines for the Early Management of Patients with Acute Ischemic Stroke From the American Stroke Association* was analyzed, and subgroup analyses were performed for different geographical regions, hospital settings, medical subspecialty, physician experience and age.

**Results** 607 physicians (53.6% neurologists, 28.7% interventionalists, 13.3% neurosurgeons, 4.7% other) from 38 countries participated in this survey. Overall guideline adherence in cases based on level of evidence 1A and 2B was 86.1% and 66.6%. For level 1A case scenarios, adherence differed