E-158 SAFETY OF CEREBRAL ANGIOGRAPHY IN PRIVATE OUTPATIENT CLINICAL SETTING

S Razavi*, E Masangkay, N Chelikam, U Kelly-Tolley, L Pierce, R Malek, A Padiar. *Minimally Invasive Surgical Solutions, San Jose, CA*

10.1136/neurintsurg-2020-SNIS.190

Introduction Most cerebral angiography (CA) procedures are performed in the hospital setting. Per SIR/ASNR/SNIS 2015 guidelines, acceptable success rate is 98%, with a 1–5% rate of complications requiring additional therapy. Due to procedural complexity, physicians have historically been reluctant to perform CA in the freestanding outpatient clinic. Here, we report the results of CA procedures performed in our private clinic in the past 11 years.

Methods In this retrospective study, we collected the data on all patients who underwent CA from 2008 to 2019 in our clinic. A total of 771 consecutive procedures were analyzed. All procedures were performed by board-certified interventional neuroradiologists and senior members of Society of Neurointerventional Surgery. SIR/ASNR/SNIS 2015 guidelines were used to classify complications. Main recorded variables are listed in table 1. Indication, comorbidities, sedative details, access route, catheter, guidewire and sheath details and use of contrast media were recorded. Pre- and post-procedure NIHSS scores were used to evaluate possible neurologic complication.

Results Patient demographics, procedure details and outcome measures are presented in table 1. Overall success rate was 100%. Among all performed procedures, one neurologic complication (0.1%) was reported (TIA). Of all reported non-neurologic complications, 4 (0.6%) were classified as major (all class C) and 3 (0.4%) as minor (all class A). This places our safety outcomes well above acceptable rates. Median follow up duration was 2 weeks.

Abstract E-158 Table 1 Variables and statistics

Age (years; *mean, SD*)	65.0	13.7	**Technical success** (*n, %*)	771	100%
Gender (*n, %*)			**Closure device** (*n, %*)		
Male	309	40.3%	Angio-Seal	344	90.5%
Female	458	59.7%	Perclose ProGlide	33	8.7%
Indication for procedure (*n, %*)			**Neurologic Complications** (*n, %*)		
Aneurysm	375	51.7%	Stroke	0	0.0%
Carotid artery stenosis	108	14.9%	TIA	1	0.1%
Stroke	65	9.0%	**Non-neurologic Complications** (*n, %*)		
AVM	32	4.4%	*Minor (A, B)**		
TIA	22	3.0%	Groin hematoma	2	0.3%
Headache	21	2.9%	Bleeding from insertion site	1	0.1%
Tinnitus	17	2.3%	Other	0	0.0%
SAH	12	1.7%	*Major (C-F)**		
Intracranial hemorrhage	4	0.6%	Arterial occlusion	2	0.3%
Blurry vision	3	0.4%	Hematoma	2	0.3%
Other	67	9.2%	Renal failure	0	0.0%
Past medical history (*n, %*)			AV fistula	0	0.0%
Hypertension	467	64.0%	**Minor groin discomfort**	42	5.4%
Diabetes	177	24.5%	**Post-procedure hospitalization** (*n, %*)	1	0.1%
Coronary artery disease	71	9.7%			
Congestive heart failure	4	0.6%			
Stroke					
Ischemic	169	23.4%			
Hemorrhagic	53	7.3%			
Medications (*n, %*)					
Antiplatelet	431	60.0%			
Anticoagulant	50	6.9%			
Labs (*mean, SD*)					
BUN	17.9	7.4			
Creatinine	1.0	0.9			
INR	1.1	0.2			

*** SIR/ASNR/SNIS 2015 classification for complications:**

Minor Complications

A. No therapy, no consequence

B. Nominal therapy, no consequence; includes overnight admission for observation only

Major Complications

C. Require therapy, minor hospitalization (< 48 h)

D. Require major therapy, unplanned increase in level of care, prolonged hospitalization (> 48 h)

E. Have permanent adverse sequelae

F. Result in death.

Abbreviations: AVM, arteriovenous malformation; SAH, subarachnoid hemorrhage; TIA, transient ischemic attack; BUN, blood urea nitrogen; INR, international normalized ratio; AV, arteriovenous

Conclusion According to our results, CA in non-complicated cases can be safely performed outside of hospital setting by board-certified interventional neuroradiologists with high success rates and minimal complications that are comparable to MRA and CTA. Our result show that not only CA is safe in an office setting, but potentially safer than MRA and CTA when considering higher quality imaging, evaluation of collateral flow and diagnosis of many additional vascular diseases. Proper case selection for this setting plays an important role in achieving optimal results and minimizing complications.

Disclosures S. Razavi: None. **E. Masangkay:** None. **N. Chelikam:** None. **U. Kelly-Tolley:** None. **L. Pierce:** None. **R. Malek:** None. **A. Padiar:** None.

E-159 FEASIBILITY AND SAFETY OF TRANSRADIAL ACCESS FOR PEDIATRIC NEUROINTERVENTIONS

[1]V Srinivasan*, C Hadley, 77030[1], [1]M Prablek, [1]M Lopresti, [2]S Chen, [2]E Peterson, [3]A Sweid, [3]P Jabbour, [4]C Young, [4]M Levitt, [5]J Osbun, [1]J Burkhardt, [1]J Johnson, [1]P Kan. *[1]Neurosurgery, Baylor College of Medicine, Houston, TX; [2]Neurosurgery, University of Miami, Miami, FL; [3]Neurosurgery, Thomas Jefferson University, Philadelphia, PA; [4]Neurosurgery, University of Washington, Seattle, WA; [5]Neurosurgery, Washington University School of Medicine, St. Louis, MO*

10.1136/neurintsurg-2020-SNIS.191

Background Diagnostic cerebral angiograms are increasingly being performed by transradial access (TRA) in adults, following in line with data from the coronary literature supporting fewer access-site complications. Despite this ongoing trend on TRA in neuroangiography, there has been no discussion of its use in the pediatric population. In fact, pediatric TRA for other endovascular intervention has scarcely been described even for coronary or other applications. This is the first dedicated study of transradial access for neuroangiography in pediatric patients.

Methods A multi-institutional series of consecutively performed pediatric transradial angiograms and interventions was collected. This included demographic, procedural, outcomes, and safety data. Data was prospectively recorded and retrospectively analyzed.

Results A total of 37 diagnostic angiograms and 24 interventions were performed in 47 pediatric patients, by 5 neurointerventionalists. Proximal and distal angiography were performed successfully for both diagnostic and interventional application (19 distal angiograms, 2 distal interventions). Clinically significant vasospasm occurred in 7 patients (11.5%). Re-access was successfully performed in 7 patients a total of 11 times. Conversion to femoral access occurred in 6 cases (9.8%). There were no access-related complications otherwise.

Conclusions Transradial access in pediatric patients is safe and feasible. It can be performed successfully in many cases but carries some unique challenges compared to the adult population. Despite the challenge of higher rates of vasospasm and conversion to transfemoral access, it is worth exploring further, given the potential benefits.

Disclosures V. Srinivasan: None. **C. Hadley:** None. **M. Prablek:** None. **M. Lopresti:** None. **S. Chen:** None. **E. Peterson:** None. **A. Sweid:** None. **P. Jabbour:** None. **C. Young:** None. **M. Levitt:** None. **J. Osbun:** None. **J. Burkhardt:** None. **J. Johnson:** None. **P. Kan:** None.

E-160 BLOOD CLOT IDENTIFICATION AND COMPOSITION ASSESSMENT BY FAST SPIN-ECHO (FSE) T2WI AND T2* MAPPING

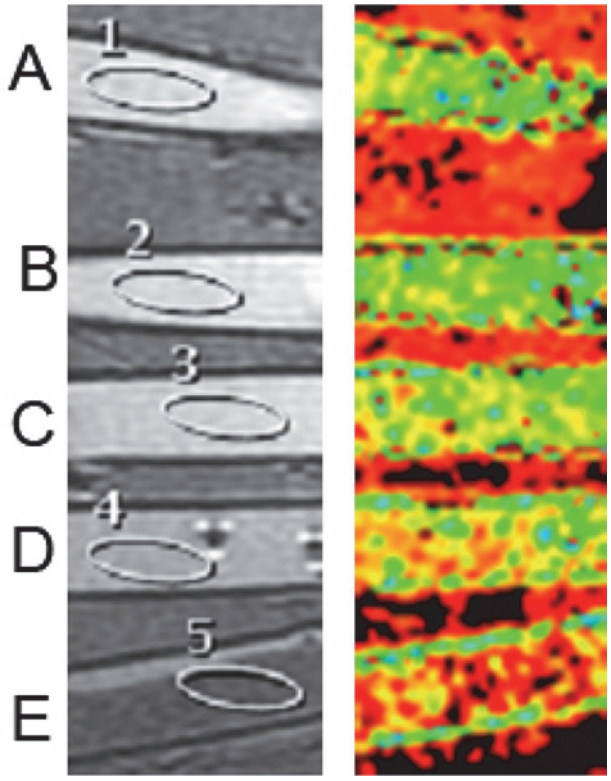
Y Ding*, M Abbassi, J Felmlee, D Dai, R Kadirvel, D Kallmes, W Brinjikji. *Radiology, Mayo Clinic, Rochester, MN*

10.1136/neurintsurg-2020-SNIS.192

Purpose There are growing data to suggest that clot composition can impact revascularization outcomes and strategies in large vessel occlusion patients. In many centers, MRI is the primary modality of acute stroke imaging so identifying clot composition on MRI imaging may be important. We performed an in vitro study to determine the MR signaling characteristics of stroke clots of various compositions.

Methods Fifteen thrombus analogs of five compositions (n=3 for each composition) [Group A, fibrin-rich (95% plasma:5% RBCs); Group B, fibrin-rich (75% plasma:25% RBCs); Group C, intermediate (50% plasma:50% RBCs); Group D, RBC-rich (25% plasma:75% RBCs,) and Group E, RBC-rich (5% plasma:95% RBCs)] were scanned with fast spin-echo (FSE) T2WI (TR/TE 2500/101 milliseconds (ms)) and quantitative T2* mapping sequence. Signals from FSE T2WI were collected, and thrombus T2* relaxation time (TT2*RT) was measured in all the groups. Correlation between the thrombus-T2* relaxation time and red blood cell content was analyzed.

Results Signal intensity changed gradually from high (bright) to low (dark) from Group A to E gradually from all the 3 clots in each group, which indicated the signal intensity was decreased as the composition of RBC increased. The average TT2*RT decreased from 60 ms (green) to 25 ms (red) from fibrin-rich clot to RBC-rich clot (Group A to E), which



Abstract E-160 Figure 1