extravascation (χ^2, p = 0.000) and decompressive surgical incidence (χ^2, p = 0.007). But diffusion volume, evaluated cording to 30 cc, 60 cc, 100 cc grading analysis, not predict neurologic outcomes, hemorrhagic complications.

Conclusion In this study, diffusion volume calculation is impossible to calculate without computerized program and clinical significance of diffusion volume was questionable. P/D-mismatch was more significant prognostic indicator than diffusion volume in acute stroke patients management.

Disclosures Y. Won: None. **D. Yoo:** None. **T. Won:** None. **S. Lee:** None.

E-099 DOES ANTERIOR CEREBRAL ARTERY VASOSPASM AFTER SPONTANEOUS SUBARACHNOID HEMORRHAGE PREDICT SHORT TERM COGNITIVE OUTCOME

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Background Spontaneous subarachnoid hemorrhage (SAH) is a disabling form of hemorrhagic stroke that affects young individuals and is responsible for short-term and long-term cognitive deficits. Delayed cerebral ischemia (DCI) is postulated to be the major determinant for this morbidity. Cerebral vasospasm (CVS) is a major contributor of DCI. Treatment of symptomatic CVS can consist of intra-arterial vasodilators or angioplasty. This study reports preliminary data on cognitive outcomes in a prospective cohort of patients with spontaneous SAH who received vasodilator therapy for anterior cerebral artery (ACA) vasospasm.

Aim

1. Determine role of delayed cerebral ischemia (DCI) and CVS after spontaneous SAH on short-term cognitive outcome.
2. Determine if ACA vasospasm predicts short-term cognitive outcome.
3. Determine if treatment of ACA vasospasm results in improvement in short-term cognitive outcome.

Methods Thirty-five patients with clinical follow-up at 3 months after SAH were selected from a prospective cohort. DCI was defined as a new hypodensity on CT scans located in a vascular territory, with or without symptoms (decrease of consciousness or focal deficits), due to CVS and not explained by other causes (e.g. rebleeding, hydrocephalus, cardioembolic sources, hypoxia, electrolyte disturbances, or seizures). CVS was defined as $\geq$25% narrowing on digital subtraction angiogram (aCVS) or Transcranial Doppler mean flow velocity $\geq$120 cm/sec (sCVS). Cognitive outcomes were assessed using Montreal Cognitive Outcome Assessment (MOCA) and poor cognitive outcome was defined as MOCA score <26. Fisher's exact tests and logistic regression were performed to analyze the study questions.

Results Average age of the study cohort was 53.1 ± 11.5 years with 71% of the patients being women. DCI occurred in 16/35 (45.7%) patients. In the absence of sCVS, DCI predicted poor cognitive outcomes (3/5 with DCI, 60% vs 1/10 without DCI, 10%; p = 0.04). Patients with anterior cerebral artery or anterior communicating complex (ACA/ACom) related aneurysmal SAH were less likely to have MOCA < 26 (ACA/ACom vs others (3/12, 25% vs 11/23, 47.8%; p = 0.28). Of the 22 patients who underwent digital subtraction angiogram for clinical indication, 10 were found to have ACA CVS and were treated. Patients with SAH due to ACA/ACom location aneurysms displayed low MOCA scores less often than those with SAH in other locations (2/5; 40% vs 4/5; 80%; p = 0.15). A two-factor logistic regression model found that, while holding treatment status constant, the odds of a poor cognitive outcome were 4.6 times higher (90% CI on odds ratio: 1.0, 21.3; p = 0.0998) among those with SAH outside of ACA/ACom aneurysms.

Conclusions Our study reaffirms that occurrence of DCI after SAH predicts poor cognitive outcome at 3 months. The fact that cognitive outcomes were not superior in patients treated for CVS suggests that a complex pathophysiology determines outcomes after SAH. Relatively poor cognitive outcome among patients with SAH in locations other than ACA/ACom alludes to involvement of functional neural network apart from frontal lobe based networks that needs further investigation.

Disclosures V. Pandav: None. **B. Bohnstedt:** None. **L. Yearout:** None. **D. Thompson:** None. **B. Ray:** None.

E-100 USE OF THE 0.027 VIA MICROCATHETER FOR PIPELINE EMBOLIZATION OF CEREBRAL ANEURYSMS: A TECHNICAL NOTE

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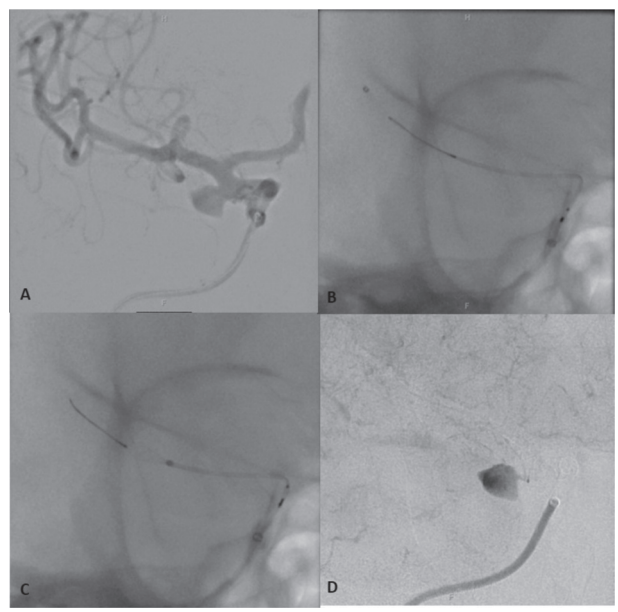
Introduction Pipeline embolization devices (PEDs) are designed for delivery through a 0.027" microcatheter such as the Marksman (Medtronic). Challenges with second generation FlexPEDs include limited support from the Marksman for consistent resheathing and providing enough push for delivery.



Abstract E-100 Figure 1 (A) Angiogram demonstrates a R Pcomm aneurysm. (B) Introduction of the PED. The distal PED was opened in the MCA and withdrawn back into the supraclinoid ICA. (C) Deployment of the PED across the aneurysm neck. (D) Post-deployment angiogram shows significant contrast stasis.

Abstract E-100 Table 1

	Number (%)
Total cases	40
Total patients	36
Age (years)	59.9 ± 11.0
Male	7 (17.5%)
Total aneurysms treated	44
Aneurysm size	7.2 mm
Anterior circulation	41 (93.2%)
Cavernous	6 (14.6)
Clinoidal	3 (7.3)
Ophthalmic	14 (34.1)
Communicating	12 (29.3)
Anterior communicating	5 (12.2)
Distal ACA	1 (2.3)
Posterior circulation	3 (6.8)
PICA	1 (2.3)
Vertebral	2 (4.5)
Triaxial system	40
Guide sheath	
NeuronMax	32 (80)
Select catheter	
JB-1	34 (85)
Guide catheter	
Catalyst 0.058	36 (90)
Navien 0.058	8 (20)
Microcatheter	
Via 0.027 inch	40 (100)
Marksman	3 (7.5)
Pipeline embolization devices	48
Cervical tortuosity	10 (25%)
Guide catheter position	
ACA	4 (10)
MCA	32 (80)
Supraclinoidal ICA	1 (2.5)
Basilar	2 (5)
Vertebral	1 (2.5)
Clinical success	
VIA tracked to target	40 (100)
Successful resheathing	6/6 (100%)
Successful treatment	40 (100)

The VIA27 (Sequential) is an alternative 0.027" microcatheter originally designed for intrasaccular flow diverter delivery. Here we describe our experience with the VIA27 in the delivery of PEDs.

Methods We retrospectively identified patients who underwent PED treatment with the VIA27 microcatheter at our institution. Patient demographics, equipment utilized, intraprocedural catheter positions and periprocedural complications were documented.

Results 36 patients underwent 40 embolizations of 44 aneurysms with 48 PEDs (Table 1) using the VIA27. The average age was 59.9 ± 11.0 years; 7 (17.5%) were male. Most aneurysms 41 (93.2%) were located anteriorly. The average aneurysm size was 7.2 mm with 38 (86.4%) small, 3 (6.82%) large, and 3 (6.82%) giant. The VIA27 was successfully used to deploy all 48 PEDs (Figure 1). 6 attempts were made to resheath the PED during placement; all were successful. The distal tip of the catheter was located in the ACA 4 (10%), MCA 32 (80%), supraclinoidal ICA 1 (2.5%), basilar 2 (5%), and distal vertebral 1 (2.5). In 3 (7.5%) cases where the VIA27 catheter was unable to track, alternate catheters were used to advance and then exchanged back to the VIA27. In 3 (7.5%) instances, the Marksman was unable to provide adequate push for PED deployment; the VIA27 was exchanged for placement of the PED. No patients experienced iatrogenic vessel injury or other microcatheter associated complications.

Conclusions The VIA27 is capable of safe FlexPED delivery in the treatment of intracranial aneurysms. We have shown its utility in enhancing both resheathing and push for optimal FlexPED placement. The 0.027" VIA may be a useful and safe adjunct to the more traditional Marksman in FlexPED treatments of cerebral aneurysms.

Disclosures L. Lin: None. **G. Colby:** None. **R. Xu:** None. **M. Bender:** None. **B. Jiang:** None. **D. Lubelski:** None. **A. Coon:** None.

E-101 INITIAL RESULTS FROM EFFECTIVE ZONE FOR MOBILE STROKE TEAM TRIAL

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Introduction In Japan, endovascular treatment for acute ischemic stroke from large vessel occlusion should be performed by neurointerventionists. However, most hospitals in Hokkaido, a Northern island of Japan, that offer treatment for cerebral vascular disease do not have access to a neurointerventionist; the rural areas are especially affected. Thus, Hokkaido University has offered support to institutions without a neurointerventionist, to perform endovascular treatment.

The neurointerventionists stationed in other hospitals drive to retrieve the resultant clot since the acute ischemic stroke from large vessel occlusion. We called this the "drive and retrieve system" method, and launched the effective zone for mobile stroke team (EZO) trial to evaluate the validity and efficacy of this method.

Herein, we report the initial results of the EZO trial.

Methods Nine institutes across our affiliated hospitals within a one-hour drive from Sapporo City took part in this trial.

Three of these 9 institutes that have a full-time neurointerventionist were registered as the source. When an episode of acute ischemic stroke requiring intervention occurred in the other 6 hospitals, the available neurointerventionist provided treatment based on the drive and retrieve method. The neurointerventionists' schedules was updated and distributed to all participating units twice a week, so that the supported hospitals could immediately make contact when required. We analysis the data of 21 cases in the EZO trial from July 2015 to October 2015.

Results For 19 out of 21 cases (90%), endovascular treatment could be performed endovascular immediately. The median time from door- to- puncture was 18 min (interquartile range [IQR]: 49.25–91.5). The median time from puncture to arrival of the neurointerventionist was also 18 minute (IQR: 3.5–30.5). The recanalization rate (TICI 2 b/3) was 81 %.

Conclusion The drive and retrieve system has the potential to support rural medical institutes that do not have access to a full-time neurointerventionist.

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