Conclusion We are first to describe that selective brain cooling is possible via CSF exchange with double lumen EVD to achieve significant temperature difference between body core and brain. The timing and rate of selective cooling needs to be established as cause of arrhythmias before starting human trials.

Disclosures B. Rezai Jahromi: 1; C; IRRAS. 2; C; Neurovascular Innovations. 4; C; Neurovascular Innovations. 6; C; Helsinki Surgical Instruments. **N. Järveläinen:** None. **J. Kauhanen:** None. **V. Zamotin:** None. **N. Brandmeir:** 1; C; IRRAS. 2; C; IRRAS. **M. Niemelä:** None. **S. Ylä-Herttuala:** None.

LB-008 TREATMENT OUTCOMES FOR ARUBA ELIGIBLE BRAIN ARTERIOVENOUS MALFORMATIONS: A COMPARISON OF REAL-WORLD DATA FROM THE NVQI-QOD AVM REGISTRY TO THE ARUBA TRIAL

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Introduction Significant controversy exists in the management of unruptured cerebral arteriovenous malformations (AVM). Results from A Randomized Trial of Unruptured Brain Arteriovenous Malformations (ARUBA) suggested that intervention increases the risk of stroke/death compared to medical management. However, numerous study limitations raised concerns regarding the trial's generalizability. We assessed the rate of stroke/death and functional outcomes in ARUBA-eligible patients from a multicenter database, the Neurovascular Quality Initiative Quality Outcomes Database (NVQI-QOD).

Methods We performed a retrospective analysis of prospectively-collected data of ARUBA-eligible patients who underwent intervention at 18 participating centers. The primary endpoint was stroke/death from any cause. Secondary endpoints included neurologic, systemic, radiographic, and functional outcomes.

Results 173 ARUBA-eligible patients underwent intervention with median follow-up of 269 (25-733) days. Seventy-five patients received microsurgery ± embolization, 37 received radiosurgery, and 61 received embolization. Baseline demographics, risk factors, and general AVM characteristics were similar between groups. A total of 15 (8.7%) patients experienced stroke/death with no significant difference in primary outcome between treatment modalities. Microsurgery ± embolization was more likely to achieve AVM obliteration ($P < 0.001$). Kaplan-Meier survival curves demonstrated no difference in overall death/stroke outcomes between the different treatment modalities ($P = 0.146$). Additionally, when compared to the ARUBA interventional arm, our patients were significantly less likely to experience death/stroke (8.7% vs. 30.7%; $P < 0.001$) and functional impairment (mRS $\geq$ 2) (17% vs. 46.2%; $P < 0.001$).

Conclusion Our results suggest that intervention for unruptured brain AVMs at specialized centers across the United States is safe and effective.

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LB-009 SMARTPHONE-ENABLED MACHINE LEARNING ALGORITHMS FOR AUTONOMOUS STROKE DETECTION

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Background Using the well-established FAST paradigm, we developed an automated smart phone application for detection of acute stroke signs using machine learning (ML) algorithms for recognition of facial asymmetry, arm weakness, and speech changes (figure 1).

Methods We analyzed collected data from patients admitted to 4 major metropolitan stroke centers. Speech and facial data were captured via smartphone video recording and arm data was captured via device sensors.

A. Face. This module extracts standard 68 facial landmark points that are passed through a machine learning pipeline consisting of a dimensionality reduction step and an asymmetry classifier (figure 2).

Abstract LB-009 Table 1 Characteristics of the studied population

Number of patients	344
Female (N/%)	160 / 46.5%
Age (median)	65.9
Hemorrhagic Stroke (N/%)	18 / 4.8%
Ischemic Stroke (N/%)	222 / 64.53%
Bell's palsy (N/%)	28 / 8%
Healthy Controls	76
Number of patients used for training of ML algorithms	240
Number of patients used to test ML algorithms	104