E-044 PATIENT OUTCOMES AFTER TREATMENT OF BRAIN ANEURYSM IN SMALL DIAMETER VESSELS WITH THE SILK VISTA BABY FLOW DIVERTER: A SYSTEMATIC REVIEW

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Background Initial technical constraints on the treatment of aneurysms in small parent vessels using flow diverters included challenges in navigating the delivery system and catheter size compatibility, as well as unavailability of smaller devices. The Silk Vista Baby (SVB, BALT) is a first-in-class flow-diverter device delivered using a 0.017” microcatheter, designed for the treatment of intracranial aneurysms, including those in small diameter vessels. A systematic literature review (SLR) of the literature was performed to evaluate the safety and efficacy of using SVB to treat intracranial aneurysms in vessels less than 3.5 mm in diameter.

Methods We performed a PRISMA-compliant SLR to evaluate the outcomes of SVB in the treatment of aneurysms in small intracranial vessels. Primary outcomes were occlusion status and major stroke, and secondary outcomes included all-cause mortality, procedure-related neurologic death, and post-operative aneurysm rupture. Data were expressed as descriptive statistics only.

Results A total of four studies, including 163 patients with 173 intracranial aneurysms, were included. The most common aneurysm locations were the anterior cerebral artery (24.9% [43/173]), the middle cerebral artery (24.3% [42/173]), and the anterior communicating artery (23.1% [40/173]). Parent artery diameter ranged from 0.9 mm to 3.6 mm, most aneurysms were saccular (81.8%), and 29% were acutely or previously ruptured. Overall, 32.9% (57/173) of the aneurysms managed with the SVB had previously been treated, mainly using coiling. Moreover, adjunct coiling use ranged from 2.1% to 30.2%. Technical success was obtained in 98.8% of cases. Overall, complete and adequate (complete and near-complete) aneurysm occlusion were 60.6% and 72.1%, respectively, on studies with available early-term follow-up (mean ≥6 months). Postoperative bleeding rate across the studies was 1.8%, all case occurring previously or acutely ruptured aneurysms. Major stroke was noted in 1.2% of cases, and branch occlusion or stent thrombus formation in 5.5%. Mortality rate among the studies was 2.5%, with 3 instances adjudicated as neurologic deaths (1.8%).

Conclusion This systematic review suggests that SVB is a safe and effective treatment for intracranial aneurysms in small vessels. Device trackability and reduced system dimensions, also facilitated the treatment of previously judged not amenable lesions, including a wide range of aneurysms located in anterior and posterior circulation distal vessels. Further prospective and comparative studies with patient outcome data specific to aneurysm location are needed to confirm the safety and efficacy of SVB.

Disclosures R. Hanel: 1; C; Unrestricted research grant from NIH, Interline Endowment, Microvention, Stryker, CNX.. 2; C; Medtronic, Stryker, Cerenovous, Microvention, Balt, Phenox, Rapid Medical, and Q’Apel. He is on advisory board for MiVI, eLum, Three Rivers, Shape Medical and Corindus.. 4; C; InNeuroCo, Cerebrotech, eLum, Endostream, Three Rivers Medical Inc, Scientia, RisT, BlinkTBI, and Corindus.. G. Cortez: None. V. Benalia: None. E. Sheffels: None. D. Suftin: None. J. Pederson: None. V. Pereira: None.

E-045 A CASE OF LEFT INTERNAL CAROTID ARTERY STROKE DUE TO FAT EMBOLISM FROM NOVEL COSMETIC PROCEDURE: A CASE REPORT

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A 28-year-old woman was transferred to the emergency room following an acute change in mental status after liposuction and fat harvesting transfer into her gluteal region. She had a forced left-gaze, with right sided hemiplegia where the motor movements did not even respond to painful stimulation, and Babinski’s sign was positive on both the sides. The CT brain - stroke protocol scan was 3.5 h after the liposuction procedure showed a hypodensity signal in the left hemisphere and a hypodensity within the left Sylvian fissure, signs of grey-white matter differentiation, with 1mm MLS to the right. NIHSS on admission 26. 11 hours after the liposuction procedure, widespread petechiae developed on her chest, back, and arms. Brain magnetic resonance imaging (MRI) showed significant areas of hyperintense foci on T2-weighted and diffusion-weighted images in the deep gray matter, including the left lentiform nucleus, thalami, and bilateral caudate nuclei, and the left cortical area including the left frontal, temporal, and
Abstract E-046 Table 1  Demographics and presentation of included patients

Abstract E-046 Table 2  Management and Clinical Outcomes

Disclosures


E-047  STAGED APPROACH TO COMPLEX Y-STENTING FOR WIDE-NECKED BIFURCATION ANEURYSMS

Purpose The treatment of wide-necked bifurcation aneurysms (WNA) is evolving rapidly. Complex techniques, such as Y-stent-assisted coiling (YSAC), in which coils are deployed over a dual-stent assembly, with one passing through the interstices of the other, are effective but present unique challenges and complications. We describe the results of a staged YSAC method for unruptured WNBAs.

Methods We retrospectively reviewed the records of patients harboring WNBAs treated at our institution with staged YSAC between 2015 and 2021. Inclusion criteria were adult patients with unruptured intracranial bifurcation aneurysms with wide necks, defined as neck width ≥ 4 mm or a dome/neck ratio ≤ 2. Primary endpoint was periprocedural risk of staged YSAC, defined by major complications (ischemia or hemorrhage within 48 hours of the procedure) or minor complications (pharmacologic or other complications requiring intervention). Secondary endpoints were degree of initial and follow-up occlusion, characterized by Raymond-Roy (RR) class, as well as need for retreatment. These outcomes were qualitatively compared with data in extant YSAC studies.

Results A total of 21 patients (13 female, mean age 61.1) underwent successful staged YSAC for unruptured WNBAs (eight anterior communicating, six middle cerebral, six basilar tip, one internal carotid artery terminus). Mean dome/neck ratio was 1.55. Mean interval between stages was 52.1 days. Major complications occurred in one (4.76%) patient who had a non-occlusive thrombus near their stent on postoperative day two after trauma. There were no intraoperative or interoperative ruptures or other hemorrhagic complications. Minor complications included two (9.52%) asymptomatic intraoperative thromboses treated effectively with GP IIb/IIIa inhibitors and one (4.76%) intraoperative access site complication requiring vascular consult. Immediately following the second stage, eight (38.1%) cases had complete occlusion, with five (23.8%) neck remnants, and eight (38.1%) aneurysm remnants. Follow-up angiography was available for 15 patients (mean follow-up of 6.01 months) and revealed complete occlusion in 12 (80%), neck remnant in one (6.7%), and aneurysm remnants in two (13.3%). Adequate occlusion (RR1 or RR2) was achieved in 86.7% of cases. Two (9.52%) aneurysms required retreatment over one year after initial treatment.

Demographics and presentation of included patients

<table>
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<tr>
<th>E-046</th>
<th>RACIAL DIFFERENCES IN TIME TO BLOOD PRESSURE CONTROL OF ANEURYSMAL SUBARACHNOID HEMORRHAGE PATIENTS: A SINGLE-INSTITUTION STUDY</th>
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<td>1U Mahajan, 2X Zhou, 3A Bates, 1A Desai, 1J Butke, 2B Shammassian, 1Y Duan, 1C Burant, 1K Sarna, 1M Sajatovic, 2D Dani, 3S Hoffer.</td>
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Background and Purpose Aneurysmal subarachnoid hemorrhage (aSAH) occurs in approximately 30,000 patients annually in the United States. Uncontrolled blood pressure (BP) is a major risk factor for aSAH. Clinical guidelines recommend maintaining BP control until definitive aneurysm securement occurs. It is unknown whether racial differences exist regarding BP control and outcomes in aSAH.

Methods We conducted a retrospective review of adult aSAH cases between 2013–2019 at a single large tertiary medical center. Data extracted from the medical record included sex, age, race, insurance status, aneurysm location, aneurysm treatment, initial systolic and diastolic BP, Hunt Hess grade, Modified Fisher score, time to BP control (defined as time in minutes from first BP measurement to the first of three consecutive systolic BP measurements under 140mmHg), hospital length of stay, and final discharge disposition.

Results 194 patients met inclusion criteria; 140 (72%) White and 54 (28%) Black. Black patients were older than White patients (59.2 ± 3.44 years versus 52.92 ± 4.36 years, p = 0.004). White patients were more likely than Black patients to be privately insured (62.1% versus 33.3%, p < 0.001). Black patients were more likely than White patients to have Medicaid (55.6% versus 15.0%, p < 0.001). Compared to White patients, Black patients presented with a higher median systolic (165 mmHg versus 148 mmHg, p =0.004) and diastolic (93 mmHg versus 84 mmHg, p = 0.02) BP. Black patients had a longer median time to BP control than White patients (200 minutes versus 90 minutes, p = 0.001). Black patients had a shorter median length of stay than White patients (15 days versus 18 days, p < 0.031). There were no significant racial differences present in discharge disposition, complications, or need for further intervention.

Conclusion Black race was associated with higher BP at presentation, longer time to BP control, but shorter length of stay. No racial differences were present in aSAH associated complications or interventions.

Tables to be presented:

E-046 Racial differences in time to blood pressure control of aneurysmal subarachnoid hemorrhage patients: a single-institution study

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