severe internal carotid artery (ICA) tortuosity or cervical loop presence (Yes vs. No OR: 0.16, 95% CI: 0.03-0.93, p=0.04) and location of the base catheter in the proximal cervical ICA (Proximal Cervical ICA vs. Petrous Carotid/Intracranial - aOR: 0.09, 95%: 0.01-0.72, p=0.02) were significantly associated with lower odds of successful AC delivery with Colossus. Only 1.7% (2/118) of cases reported intraprocedural vasospasm; there were no reports of vessel dissection or perforation.

**Conclusion** Our clinical multicenter experience demonstrates favorable performance of the Aristotle Colossus Guidewire for anterior circulation ischemic stroke intervention. Colossus may help facilitate navigation of the neurovasculature with reduction of the ledge effect. Future studies further characterize the novel wire's performance.

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## LB-012 BASAL GANGLIA HEMORRHAGE EVACUATION USING THE SCUBA TECHNIQUE: RESULTS IN EXCELLENT EVACUATION RATES

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Spontaneous intracerebral hemorrhage (ICH) is the most debilitating form of stroke with only 20% of patients reaching independence 6 months after the event.[1] Recently, the ENRICH trial (Early Minimally Invasive Removal of Intracerebral Hemorrhage, NCT02880878), demonstrated a benefit to minimally invasive endoport-mediated evacuation over medical management for lobar supratentorial hemorrhages.[2] Prespecified subgroup analysis by hemorrhage location demonstrated no benefit for the basal ganglia hemorrhage cohort. This lack of benefit may have been related to the ENRICH endoport-based approach which still utilizes a typical craniotomy and a relatively large tube-shaped port to access the hemorrhage. Endoscopic evacuation performed with the Stereotactic Intracerebral Hemorrhage Underwater Blood Aspiration (SCUBA) technique evacuation utilizes a smaller access profile (>80% less cross-sectional area), permits excellent intracavitary visibility, and provides the ability to wash the hemorrhage cavity with irrigation which may improve upon endoport-mediated basal ganglia hemorrhage evacuations. Patients presenting to an urban health system with ICH between December 2015 and December 2021 were evaluated to undergo SCUBA. Data relating to patient demographics, initial presentation, radiographic features, operative details, and outcomes were collected prospectively in an internal registry and analyzed retrospectively. Univariate analyses of factors predictive for good functional outcome (mRS ≤ 3 at 6 months) were performed with a p value set at 0.10 and significant factors were included in a multivariable analysis. Additional analyses were then performed to evaluate the impact of time to evacuation on 6 month modified Rankin Scale (mRS).

**Results** A total of 21 (31%) patients achieved a good 6-month functional outcome. On multivariable analysis, each additional year of age reduced the likelihood of achieving a good functional outcome by 6% (OR 0.94, 95% CI 0.88-1.00, $p=0.062$). Each additional NIHSS point on presentation reduced the likelihood of achieving a good functional outcome by 12% (OR 0.88, 95% CI 0.76-0.99, $p=0.048$). Presence of IVH reduced the likelihood of a good functional by 81% (OR 0.19, 95% CI 0.03-0.92, $p=0.056$). There was a strong trend towards improved outcome with evacuation within 24 hours: 27 patients who underwent evacuation within 72 hours, were IVH-negative per ENRICH criteria, and had a ICH volume of at least 30mL. A total of 9 patients (33.3%) were noted to have a good outcome. A greater majority of patients who underwent evacuation within 24 hours inclusive were noted to have a good outcome when compared to the cohort who underwent evacuation from 24 hours to 72 hours (50% vs 20%, p = 0.13).

**Conclusion** The SCUBA technique results in excellent evacuation rates in the treatment of basal ganglia ICH. Time to evacuation is a predictor of good outcome with patients operated on within 24 hours experiencing substantially improved outcomes relative to patients operated on between 24 and 72 hours. A randomized clinical trial is needed to further elucidate the impact of time to evacuation within the 24 hour window for basal ganglia ICH.

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## LB-013 MIDDLE MENINGEAL ARTERY EMBOLIZATION FOR CHRONIC SUBDURAL HEMATOMA USING N-BUTYL CYANOACRYLATE WITH D5W PUSH TECHNIQUE: A MULTICENTRIC NORTH AMERICAN STUDY OF 269 PATIENTS

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**Background** As the aging population increases, the incidence of chronic subdural hematomas (cSDH) is expected to rise. Surgical evacuation, though effective, sees up to 30% recurrence. Middle meningeal artery (MMA) embolization, particularly with n-butyl cyanoacrylate (n-BCA) glue diluted in D5W for distal penetration, has shown promise in reducing recurrences.

**Objectives** Limited reports have investigated the safety and technical feasibility of n-BCA as a primary liquid embolic agent using the D5W push technique in cSDH. This series is the largest in the literature investigating the outcomes of this technique in cSDH.

**Methods** A multicenter retrospective database analysis was conducted on consecutive patients who underwent MMA embolization using n-BCA embolisate. Data collected included patient demographics, procedural information, angiographic data, and periprocedural complications.

**Results** The study included 269 patients with a median age of 76. Nearly half of the patients had previous surgeries, and 93 underwent contralateral embolization for bilateral cSDH. Access through radial artery was done in 113 patients. Successful MMA embolization with effective distal penetration was achieved in all cases. The complication rate was 2.2%. Significant improvements were noted at a 60-day follow-up, with a median reduction in cSDH diameter of 40.6% ($p<0.001$), and 53% of patients showing neurological improvement. No recurrent cSDH or need for retreatment was observed in patients who underwent follow-up.

* No change defined as a change of less than 0.25 mm

**Conclusion** MMA embolization using n-BCA with the D5W push technique is safe and technically feasible. It can be used adjunctively or as an alternative to surgery in cSDH patients, resulting in decreased recurrence, high technical success, improved distal penetration, and low complication rates.

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**Abstract LB-013 Table 1** Baseline patient characteristics and lesion details (total patients, n= 269)

| Variable | |
|---|---|
| Age, years (median, IQR) | 73 (65, 82) |
| Female, n (%) | 69 (25.7) |
| Hypertension, n (%) | 203 (75.5) |
| Hyperlipemia, n (%) | 123 (45.7) |
| Diabetes, n (%) | 86 (32) |
| Alcohol abuse, n (%) | 35 (13) |
| Coagulopathy, n (%) | 67 (24.9) |
| Liver Cirrhosis | 25 (9.3) |
| Anti-platelet medicine use, n (%) | 93 (34.6) |
| Anti-coagulation medicine use, n (%) | 79 (29.4) |
| Baseline mRS (median, IQR)) | 2 (1,3) |
| Traumatic SDH, n (%) | 151 (56.1) |
| Prior surgery, n (%) | |
| Yes | 124 (46.1) |
| No | 95 (35.3) |
| Unknown | 50 (18.6) |
| Type of prior surgery, n (%) | |
| Burr Holes | 38 (30.6) |
| Craniotomy | 49 (39.5) |
| Craniectomy | 1 (0.8) |
| SEPS | 36 (29) |
| Median hematoma thickness, mm (median, IQR) | 13.0 (8.0, 18.9) |
| Midline shift, n (%) | 174 (64.7) |
| Midline shift, mm (median, IQR)) | 3.45 (0, 6) |
| Side, n (%) | |
| Bilateral | 107 (39.8) |
| Left | 87 (32.3) |
| Right | 75 (27.9) |

**Abstract LB-013 Table 2** Procedure details

| Variable | Patients, n (%) |
|---|---|
| Radial Access, n (%) | 113 (42) |
| General anesthesia, n (%) | 177 (65.8) |
| Total MMA divisions embolized, n (%) | 356 |
| Anterior | 103 (28.9) |
| Posterior | 79 (22.1) |
| Both divisions | 174 (48.8) |
| High flow shunting on angiography, n (%) | 12 (4.5) |
| Highly vascular membranes on angiography, n (%) | 62 (23) |
| Large falcine artery, n (%) | 14 (5.2) |
| Surgery done also, planned, n (%) | 92 (34.2) |
| Surgery also done, unplanned, n (%) | 14 (5.2) |

**Abstract LB-013 Table 3** Complications

| Variable | Patients, n (%) |
|---|---|
| Total complications, n (%) | 6 (2.23) |
| Post-procedural stroke | 2 (0.74) |
| Venous infarct | 1 (0.37) |
| Facial nerve palsy | 1 (0.37) |
| Retroperitoneal hematoma | 1 (0.37) |
| Perforated left MMA | 1 (0.37) |

**Abstract LB-013 Table 4** Clinical and radiological outcomes

| Variable | | p-value |
|---|---|---|
| Repeat embolization done, n (%) | 0 (0) | |
| Neurological improvement, n (%) | | |
| No change | 92 (34.2) | |
| Improve | 142 (52.8) | |
| Decline | 16 (5.9) | |
| Unknown | 19 (7.1) | |
| Follow-up mRS (median, IQR) | 1 (0,2) | |
| mRS change (median, IQR) | -1 (-1, 0) | **<0.0001** |
| mRs improvement, n (%) | | |
| Improve | 115 (52.3) | |
| Same | 87 (39.5) | |
| Worse | 18 (8.2) | |
| Follow period, months (median, IQR) | 3 (1, 6.35) | |
| Clinical follow-up not available, n (%) | 46 (17.1) | |
| -SDH thickness at last follow-up, mm (median, IQR) | 9 (5, 14) | |
| -Change in SDH diameter at latest follow-up, mm (median, IQR) | 6 (2, 10.325) | **<0.0001** |
| -Thickness decrease percentage (median, IQR) | 40.6% (15.7%, 62.5%) | |
| -SDH thickness improvement, n (%) | | |
| Improvement | 95 (81.9) | |
| Worsening | 14 (12.1) | |
| No Change* | 7 (6.0) | |
| -SDH thickness degree of improvement, n (%) | | |
| >20% improvement | 83 (71.6) | |
| >50% improvement | 43 (37.1) | |
| >70% improvement | 20 (17.2) | |
| >95% improvement | 3 (2.6) | |
| -Follow-up, months, (median, IQR) | 2 (1,5) | |
| Missing, n (%) | 153 (56.9) | |

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## LB-014 FINAL RESULTS OF THE SUCCESS STUDY: SUCCESS IN COMANECI-ASSIST COILS EMBOLIZATION SURVEILLANCE STUDY

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**Background** Comaneci is a novel coil embolization assist device that is retrievable, radially adjustable, and designed as an adjunct to coiling of a wide-necked aneurysm without limiting blood flow. The Comaneci was introduced to the US market in 2019. The objective of this FDA-regulated postmarket study is to assess the safety and performance of the device in US clinical practice.

**Methods** SUCCESS is a multicenter, single arm, open, prospective study, enrolling 90 consecutive subjects in 17 US centers. Subjects must have a wide neck (4-10 mm or dome to neck ratio <2) intracranial aneurysm, either ruptured or unruptured, that is suitable for coil embolization. The Comaneci device must be deployed during the course of the embolization. Effectiveness endpoints include successful aneurysm occlusion (assessed by Raymond Roy Occlusion Classification I or II) at the end of procedure and 6 months, and good clinical outcome at 6 months. Safety endpoints include rates of intraoperative complications including thromboembolic events and coils entanglement.

**Results** Ninety (90) consecutive subjects were enrolled between November 2020 and October 2023 (64% unruptured, 36% ruptured) with mean age of 62 (range 29-82) years, 63% were females. The main locations of aneurysms were at ICA (20%), MCA (15%), ACA (15%), Acomm (20%), and Pcom (14%). Overall, a total of 356 coils were used in these cases. The Final Patients' 6 months follow up will be completed April 2024. Available data is described here, while the final results will be presented at SNIS, July 2024. Successful Occlusion (Raymond Roy I and II) at end of procedure was 87.8% (N=90), and 81.7% at 6 month follow up (N=71), good clinical outcome (mRS 0-2) was 73% at baseline, 81% at 30 days follow up and 86% at 6 months follow up ($P<0.05$ compared to baseline). Major safety outcomes: Intraoperative thromboembolic events were reported in 5 subjects (5.5%), none were symptomatic; mortality 4.4%, all in ruptured cases; coil entanglement occurred for 1 coil out of the overall 392 coils (0.3%).

**Conclusion** This postmarket study is the first to report safety and effectiveness from 90 consecutive case treated in US clinical practice. Interim data demonstrates a high rate of successful aneurysm occlusion when using Comaneci as an assist device in wide neck aneurysms. This effect is sustainable for the 6 months

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