Methods We conducted a retrospective review of adult aSAH cases between 2013 and 2019 at a single large tertiary medical center. Data extracted included patient demographics, admission time, insurance, aneurysm location, disease severity, time to aneurysm treatment (defined as time in minutes from admission to operating room time-out), hospital length of stay, complications, and final discharge disposition.

Results 880 patient records were reviewed, and 205 patients met inclusion criteria. 48 patients were admitted between 12AM-8AM (‘Shift 1’), 77 patients were admitted between 8AM-4PM (‘Shift 2’), and 86 patients were admitted between 4PM-12AM (‘Shift 3’). There was no difference in length of stay between the three groups (p=0.959, mean length of stay: 18.61 days). Black patients comprised a greater proportion of patient admitted in Shift 1 (42.2%) compared to Shifts 2 (19.7%) or 3 (23.8%) (p=0.019). There was a significant difference in median time to aneurysm treatment (652 minutes in Shift 1, 1248 minutes in Shift 2, 972 minutes in Shift 3; p<0.001). There was no difference between the three shifts in percentage coiled versus clipped (p=0.567) or discharge disposition (p=0.404; overall 68% favorable disposition and 32% poor disposition). There was no difference in rebleed (p=0.242), vasospasm (p=0.369), or additional intervention (p=0.667) between the admission shifts. Time to aneurysm securement under versus over 1440 minutes (1 day) was not associated with discharge disposition (p=0.342). However, time to aneurysm securement greater than 2880 minutes (2 days) was associated with poor discharge disposition (p=0.030).

Conclusion Admission time for aSAH patients is associated with time to aneurysm securement; patients admitted in the night or early morning receive aneurysm securement faster, but there is no difference in outcomes. Aneurysm securement over 2 days after admission is associated with poor discharge disposition.


E-285 RETRIEVAL OF FRACTURED BALLOON MICROCATHER DURING EMBOLIZATION OF CEREBRAL AVM: A TECHNICAL CASE REPORT

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Introduction Retained microcatheter is a rare but dreaded complication after Onyx embolization. We describe a modified monorail snare technique for retrieval of retained microcatheter.

Materials and Methods Pubmed search of case reports and review articles.

Results A 21-year-old female presented with intraventricular hemorrhage. Cerebral angiography revealed left frontoparietal parasagittal AVM supplied by left pericallosal ACA and left PCA branches and drainage into VoG and SSS with nidus measuring 2 x 2 cm (SM grade 3). She underwent coil-assisted Onyx embolization with occlusion of large fistulous components via L-ACA and L-PCA. She was brought back at a later date for embolization of residual nidus. After baseline DSA, a 6Fx90 cm NeuronMAX guiding sheath with a 5Fx125cm (ID-0.55”) SOFIA intermediate catheter were positioned in L-VA. A 1.6Fx165cm (2.2x9mm) Scepter Mini balloon microcatheter was advanced over a 0.007/0.014”x215cm Traxcess Mini microwire to P3/P4 segment with SOFIA advancement to L-P2 segment. Onyx-18 was injected via balloon microcatheter after balloon inflation until reflux was noted with total injection time ∼5 minutes. Balloon was deflated and excessive resistance was noted during microcatheter withdrawal. The distal 20 cm of microcatheter then inadvertently stretched and fractured from proximal shaft and was retained in L-PCA stretching back proximally to inside the distal portion of SOFIA in L-V3 segment. Movement of SOFIA didn’t appear to pull microcatheter, suggesting it was free-floating inside it. Attempt to remove retained microcatheter by advancing a second Scepter Mini and inflating it to tether retained microcatheter within SOFIA was unsuccessful due to SOFIA inner diameter limitation. We decided to track a snare device over SOFIA in a mono-rail fashion and then sliding over and onto the exposed distal portion of retained microcatheter. Proximal hub of SOFIA was cut for snare passing. Attempt to track 2mmx175cm microSNARE with it’s microcatheter (2.3-3Fx150cm) over SOFIA was first unsuccessful due to NeuronMAX inner diameter limitation. We decided to exchange out NeuronMAX. A 3.8Fx160cm 3MAX catheter was wedged in proximal segment of cut SOFIA to lengthen, and avoid movement of SOFIA during exchange. NeuronMAX was exchanged out and 3MAX was removed from SOFIA. A 0.035”x145cm Amplatz super stiff guidewire was inserted inside SOFIA for proximal support. A coaxial system of 9Fx11cm sheath (dilator removed) over 6Fx23cm sheath was prepared (6F sheath acted as dilator for 9F sheath and hub of 6F was cut so it can pass over SOFIA). This was advanced over SOFIA and inserted at R-CFA access site. 6F sheath was exchanged out leaving SOFIA inside a 9F sheath at the groin. A 4mm snare device with its microcatheter was then passed over SOFIA through sheath hub and tracked along the outer shaft of SOFIA to L-V3 segment ensuring the snare is now encircling the retained microcatheter. Proximal aspect of fractured microcatheter was captured and removed along with SOFIA. Repeat DSA images showed no residual microcatheter. Patient was extubated with intact neurological exam.

Conclusions Retained fractured microcatheter during Onyx embolization can be removed in the presence of an intermediate catheter utilizing a snare device and a mono-railing technique.

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E-285 TRANSIENT MECHANICAL NARROWING AFTER EMBOLIZATION WITH THE PIPELINE FLOW-DIVERTER

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Introduction We have occasionally noted elongation and narrowing of the Pipeline embolization device (PED) on initial follow up imaging in comparison to its immediate post-deployment configuration. These changes appear to often be transient, with resolution typically noted on subsequent imaging. As the phenomenon may go unrecognized or be misdiagnosed as intimal hyperplasia, we elected to better evaluate its