

from the aneurysm fundus, Type B. OA originates from the aneurysm neck, C. OA originates from the inner curve of the carotid siphon, D. OA is separate from the aneurysm. Primary assessed outcome was aneurysm occlusion on Digital Subtracted Angiography (DSA) or MRA at 1-year follow up. Ophthalmic artery patency at 1-year and treatment-related visual complications were also reviewed.

Results A Total of 123 patients and 129 aneurysms treated at our tertiary center between January 2017 and December 2022 were reviewed. Nine patients (10 aneurysms) were lost to follow up. Clinical and angiographic follow up data of 114 patients (119 aneurysms) were available for analysis. Median age was 54.5. 15 (12%) were men. 71 of 119 aneurysms (59%) were determined Type D, 35 (29%) were determined Type B, 10 (8%) were determined Type A, and 5 (4%) were determined type C. Overall complete occlusion rate was 77%. At 1-year follow up, 11 (15%) Type D aneurysms, 11 (31%) Type B aneurysms, 6 (60%) Type A aneurysms, and none of type C aneurysms had residual filling. The ophthalmic artery was occluded at follow up in 3/10 (30%) of the Type A group, 8/35 (22%) in the Type B group, 0% of type C group, and 3/71 (4%) of type D group. Of patients who underwent FD + coiling (n=34, 28%), 5 (14.7%) showed residual filling at 1-year follow up (2 type D and 3 type B). 18 of the 114 patients (15.7%) had transient and short-lasting disturbing visual symptoms. One patient -type B aneurysm treated with FD and adjunct coiling- developed long-term partial vision loss and optic nerve atrophy. Overall, 14/119 (11.7%) showed OA occlusion at follow up. Three of them had transient visual symptoms, without long-term sequela. 2 patients (1.6%) had a non-disabling strokes, one of them was due to antiplatelets interruption and in-stent thrombosis.

Conclusion In this single center large cohort analysis of carotid ophthalmic aneurysms, flow diversion appears safe and effective. Ophthalmic artery origin from the aneurysm neck or directly from the aneurysm sac is associated with high treatment failure rate. Adjunct coil embolization of high residual risk aneurysms appears safe and may be considered.

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THE INFLUENCE OF ARTIFICIAL INTELLIGENCE TOOLS ON ENHANCING PATIENT FOLLOW-UP COMPLIANCE FOR UNRUPTURED INTRACRANIAL ANEURYSMS: INSIGHTS FROM VIZ ANEURYSM® SOFTWARE

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Introduction Non-invasive imaging modalities such as CT Angiography (CTA) are increasingly being used to assess intracranial vasculature, leading to more frequent detection of incidental unruptured intracranial aneurysms (UIA). This increased detection is particularly notable in patients undergoing imaging for head injuries or suspected strokes, as recommended by treatment guidelines. Individuals with unruptured aneurysms are often referred to specialists for rupture risk assessment and treatment/observation. Recently, artificial intelligence (AI) based software for aneurysm

detection has been introduced as an adjunctive tool for diagnosis. This software also can be used as a tracking system of these patients to prevent non-compliance, although the impact of AI software on patient adherence to follow-up care is unclear. Therefore, we conducted a retrospective analysis of patients with suspected aneurysms identified by an AI-based UIA software and assessed its utility in improving patient follow-up compliance.

Methods Using an AI-based UIA detection software, Viz Aneurysm®, we identified patients with UIAs between July 1, 2023, and December 31, 2023. After conducting the medical chart reviews of each patient, we selected the ones who were confirmed to have UIA based on the neuroradiologists' reports. For those with newly diagnosed UIA, we investigated if the patient had proper follow-up scheduled with a specialist, such as a neurosurgeon, neurologist, or neuroradiologist. After the discharge, each patient was monitored using the patient tracking function of Viz Aneurysm®. Post diagnosis follow-up compliance was evaluated and was compared with the conventionally performed post-diagnosis patient referral system.

Results A total of 3,499 CTAs were conducted in our institution during the study period. 118 patients (3%) had at least one potential aneurysm detected by Viz Aneurysm®. Of these, the final radiology report validated the presence of aneurysms in 89 patients (75%). 65 patients (73%) had newly diagnosed aneurysm. 8 patients (9%) had ruptured aneurysms and 2 patients (2%) resulted in mortality during hospitalization. For the patients with UIA who opted for conservative management, 61 patients (69%) were enrolled in the standard post-diagnosis referral system and scheduled for follow-up care with a specialist. However, 24 patients (27%) who were lost to follow-up in the conventional referral system were discovered by the Viz Aneurysm®. The reasons for loss to follow-up of these patients were 1) lack of appropriate follow-up referrals for 16 patients (18%), 2) insurance or different health care network issues for 5 patients (6%), and 3) personal cancellation for 3 patients (3%).

Conclusion AI-based UIA detection software may be helpful in identifying patients who are lost to follow-up visits and improving the follow-up adherence rate.

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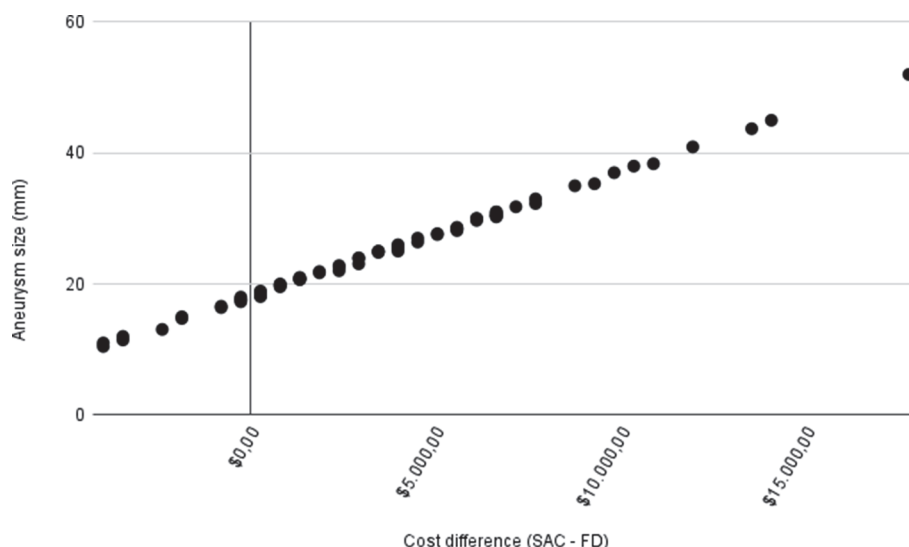
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OPTIMIZING RESOURCES: A FINANCIAL EVALUATION OF FLOW DIVERTER VERSUS STENT-ASSISTED COIL IN LARGE AND GIANT CEREBRAL ANEURYSM MANAGEMENT IN BRAZIL PUBLIC HEALTH SYSTEM

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Background Cerebral aneurysms, especially large and giant ones, pose challenges in neurointerventional surgery. Treatment choices involve clinical presentation, aneurysm details, and global resource variations. Neurointerventional methods, while innovative, may be cost-restrictive in certain regions. In public healthcare, cost is crucial, notably in countries like Brazil. This



Abstract E-189 Figure 1

study examines the device-specific cost estimation of flow diverters (FD) and traditional stent-assisted coil (SAC) embolization for large and giant cerebral aneurysms, providing insights into optimizing neurosurgical interventions within the Brazilian public health system's unique challenges.

Methods A comprehensive retrospective analysis was conducted at our singular medical center, encompassing cases of large and giant aneurysms treated between 2013 and 2023. The determination of the estimated number of coils for aneurysms previously treated with FD at our center was made, with the cost of each case, and the difference between both treatments was made.

Results Our investigation delved into the profiles of 77 patients, revealing 40 large aneurysms (51.9%), and 37 giant aneurysms (48.1%). Large aneurysms presented a mean cost difference of \$ 274 (SD \$ 2071), underscoring the device-specific cost estimation of FD over SAC in their treatment. In the realm of giant aneurysms, the mean cost difference soared to \$ 6396 (SD \$ 2694), solidifying FD as the more economically sound choice. The cost difference is better seen in figure 1.

Conclusion Our study indicates that, for the treatment of giant aneurysms and some large aneurysms, FD intervention emerges as a more economical option in comparison to SAC.

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E-190 VALIDITY OF WOVEN ENDOBRIDGE SIZING BASED ON DEVICE TO ANEURYSM VOLUME RATIO

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Introduction/Purpose The Woven EndoBridge (WEB) is an endovascular treatment option specifically with utility in treatment of wide-necked bifurcation aneurysms. The function of the WEB device to promote proper aneurysm treatment is dependent on several factors, most importantly adequate sizing and placement. While there are some guidelines on sizing WEB devices, there is an approximate rate of 20–30% for WEB re-sizing. This value also does not consider complications or aneurysm under-treatment that occurs due to incorrect sizing. We sought to validate previously identified ideal WEB-aneurysm volume ratio (iWAVE) thresholds to decrease risk of WEB re-sizing.

Materials and Methods We performed a three-center retrospective cohort study for all patients with WEB placement. Our primary outcome was the need for WEB re-sizing. We measured aneurysm dimensions and volumes using three-dimension angiographic projections. Logistic regression with restricted cubic splines were used to analyze the relationship between iWAVE ratio and correct sizing. Based on the Akaike Information Criterion, the number of knots was set at 4 (two boundary, two internal).

Results Between the three centers involved, 133 patients were identified. Nineteen patients (14.3%) required re-sizing. Median age in the correct size cohort was 64 (interquartile range (IQR): 56.75–70.25) versus 63 (IQR: 49.0–76.0) for the re-sizing cohort. In the correct size cohort, 29.8% of patients were male versus 26.3% in those requiring re-sizing ($p=0.756$). There was also no difference in number of patients presenting with ruptured aneurysms (correct size: 16.7% versus re-size: 21.1%, $p=0.640$). Median iWAVE was 0.997 for patients not requiring re-sizing (IQR: 0.826–1.296) versus 1.14 (IQR: 0.734–1.512) for those requiring re-sizing ($p=0.728$). Using the above logistic regression methods, we found that an iWAVE ratio from 0.76 to 1.24 gives >80% probability of successful sizing at the lower end of 95% CI (figure 1).

Conclusion Optimal WEB sizing is essential for successful aneurysm treatment and avoidance of complications. We found that a ratio of WEB volume to aneurysm volume of 0.76–1.24 provides the greatest probability of successful initial sizing. This is close to the previously posited ideal volume range (0.9–1.16).