Introduction

The use of balloon guide catheters (BGCs) for proximal flow arrest during neurointerventional procedures is limited due to incompatibility of these catheters with large-bore aspiration catheters and difficulty in device navigation. The objective of our study was to describe the use of Walrus (Q’Apel Medical, Fremont, CA), a new 8-French (F) BGC, with a variety of aspiration catheters and procedures requiring flow arrest.

Methods

Consecutive cases using Walrus BGCs for proximal flow arrest during mechanical thrombectomy for acute stroke cases was recorded. Procedure indication, vessel occlusion site, technique, first-pass effect (modified thrombolysis in cerebral infarction score of 2C or 3 after first recanalization attempt), and complications were recorded and evaluated statistically.

Results

Our study included 57 patients: all (100%) underwent mechanical thrombectomy. Besides mechanical thrombectomy, the Walrus BGC was used in conjunction with the following techniques: stent retrieval in 2 patient (3.5%), Solbra in 41 (71.9%), and aspiration-first in 14 (24.6%). Eight different aspiration catheters were used in 56 of these 57 procedures. First-pass effect was achieved in 36 (63.2%) of 57 procedures. Four cases (7.0%) experienced intraoperative complications and 2 (3.5%) died during in-hospital stay.

Conclusion

Our study demonstrates Walrus BGC as an excellent 8F navigable guide catheter compatible with most available aspiration catheters. With a larger inner diameter and compatibility with most available aspiration catheters, it can be used to achieve proximal flow arrest during mechanical thrombectomy and possibly for other neurointervention procedures in the future.

Abbreviations and acronyms

ADAPT, a direct aspiration first pass technique; BGC, balloon guide catheter; F, French; FPE, first-pass effect; ICA, internal carotid artery; ID, inner diameter; mFPE, modified first-pass effect; mRS, modified Rankin scale; mTICI, modified thrombolysis in cerebral infarction; OD, outer diameter; STRATIS, Systematic Evaluation of Patients Treated with Neurothrombectomy Devices for Acute Ischemic Stroke

Disclosures

M. Waqas: None. R. Dossani: None. M. Alkhaldi: None. J. Neveu: None. J. Cappuzzo: None. J. Liam: None. A. Khan: None. V. Lazarov: None. A. Monteiro: None. J. Davies: 1; C; National Center for Advancing Translational Sciences of the National Institutes of Health under award number KL2TR001413 to the University at Buffalo. A. Siddiqui: 2; C; Amnis Therapeutics, Boston Scientific, Canon Medical Systems USA Inc., Cerebrotech Medical Systems Inc., Cerenovus, Corindus Inc., Endostream Medical Ltd., Imperative Care, Inc. Integra LifeSciences C. 4; C; Adona Medical, Inc, Amnis Therapeutics, (Purchased by Boston Scientific October 2017), Blink TBI Inc., Buffalo Technology Partners Inc., Cerebrotech Medical Systems, Inc., Cognition Medical, Endostrea. E. Levy: 2; C; Claret Medical, GLG Consulting, Guidepoint Global, Imperative Care, Medtronic, Rebound, StimMed, 4; C; NeXt-Gen Biologics, Rapid Medical, Claret Medical, Cognition Medical, Imperative Care (formerly the Stroke Project), Rebound Therapeutics, StimMed, Three Rivers Medical.
respective area (45.2%). From those patients who chose “Femoral”, the subsequent question “What reasons influenced your answer?” was answered as following: pain (55.5%), bruising (22.2%), complications (11.1%), recovery time (22.2%), mobility (33.3%), failure of the other approach (22.2%) and comfort of puncturing the respective area (0%). When those who answered “no preference” were further questioned “why?”, 75% answered “it’s a physicians’ decision” and 25% answered “similar experiences with both radial and femoral”.

Conclusions At our institution, most patients preferred transradial over transfemoral approach. Most common reasons included pain, recovery time and bruising. Although the effectiveness and safety of transradial approach for non-diagnostic neurointervention remains uncertain and continues to technically evolve, it may be the best option for diagnostic angiograms considering the patients’ preference.

Disclosures J. Cappuzzo: None. A. Aguirre: None. A. Monteiro: None. K. Vakharia: None. N. Ruggiero: None. M. Waqas: None. R. Dossani: None. J. Davies: 1; C; National Center for Advancing Translational Sciences of the National Institutes of Health under award number K23TR001413 to the University at Buffalo. A. Siddiqui: 2; C; Amnis Therapeutics, Boston Scientific, Canon Medical Systems USA Inc., Cerebrotech Medical Systems Inc., Cerenovus, Corindus Inc., Endostream Medical Ltd., Imperative Care, Inc, Integra LifeSciences C. 4; C; Adona Medical, Inc, Amnis Therapeutics, (Purchased by Boston Scientific October 2017), Blink TBI Inc., Buffalo Technology Partners Inc., Cerebrotech Medical Systems, Inc., Cognition Medical, Endostrea. E. Levy: 2; C; Claret Medical, GLG Consulting, Guidepoint Global, Imperative Care, Medtronic, Rebound, StimMed,. 4; C; NeXtGen Biologics, RAPID Medical, Claret Medical, Cognition Medical, Imperative Care (formerly the Stroke Project), Rebound Therapeutics, StimMed, Three Rivers Medical.

E-132 INTRA-ARTERIAL THERAPIES VERSUS STANDARD MEDICAL TREATMENT IN ACUTE BASILAR ARTERY OCCLUSION: SYSTEMATIC REVIEW AND POOLED ANALYSIS OF DATA FROM THE LAST 2 DECADES
10.1136/neurintsurg-2021-SNIS.227

Background Management of acute basilar artery occlusion (BAO) remains a challenge, carrying high morbidity and mortality rates. Most evidence about BAO management comes from observational studies evaluating either intra-arterial therapies (IAT) or standard medical treatment (SMT). The optimal modality has not been determined.

Methods We performed a systematic review of all acute BAO studies published between January 2000 and October 2020. A pooled-analysis was performed to compare IAT and SMT.

Results Data from 4616 patients were pooled (IAT=3834, SMT=782). IAT had higher rates of good-outcome (31.7%) vs. 20.6%; P<0.001), moderate-outcome (44.4% vs. 18.6%, P<0.001), and lower mortality (33.2% vs. 45.3%; P<0.001). Unadjusted odds ratios (ORs) for good-outcome (OR 1.91, 95%confidence interval [CI] 1.56-2.33), and moderate-outcome (OR 2.68, 95%CI 2.17-3.32) significantly favored IAT, whereas mortality (OR 0.55, 95% CI 0.47-0.64) significantly favored SMT. After adjustments for age and National Institutes of Health Stroke Scale (NIHSS) score, ORs for good-outcome (adjusted OR [adjOR] 1.14, 95%CI 0.15-8.48), moderate-outcome (adjOR 1.75, 95%CI 0.22-14.08) and mortality (adjOR 1.39, 95%CI 0.38-5.11) did not significantly favor any modality. In a secondary analysis including only studies within the stent-retriever thrombectomy era (2009-2020), adjusted ORs for good-outcome (adjOR 2.51, 95%CI 1.01-6.19) significantly favored IAT, whereas moderate-outcome (adjOR 1.67, 95%CI 0.84-3.34) and mortality (adjOR 0.55, 95%CI 0.19-1.61) did not significantly favor any modality.

Conclusions Pooled-analysis showed superior outcomes for IAT. In the stent-retriever thrombectomy era, the odds of good outcome remain significant even after adjustments for age and NIHSS score, but randomized trials are needed to establish best management.

Disclosures A. Monteiro: None. M. Waqas: None. H. Rai: None. A. Baig: None. R. Dossani: None. F. Almayman: None. J. Cappuzzo: None. J. Nie: None. J. Davies: 1; C; National Center for Advancing Translational Sciences of the National Institutes of Health under award number KL2TR001413 to the University at Buffalo. 2; C; Medtronic. K. Snyder: 2; C; Canon Medical Systems Corporation, Penam-bra Inc., Medtronic, and Jacobs Institute. E. Levy: 2; C; Claret Medical, GLG Consulting, Guidepoint Global, Imperative Care, Medtronic, Rebound, StimMed,. 4; C; NeXtGen Biologics, RAPID Medical, Claret Medical, Cognition Medical, Imperative Care (formerly the Stroke Project), Rebound Therapeutics, StimMed, Three Rivers Medical,. 2; C; Amnis Therapeutics, Boston Scientific, Canon Medical Systems USA Inc., Cerebrotech Medical Systems Inc., Cerenovus, Corindus Inc., Endostream Medical Ltd., Imperative Care, Inc, Integra LifeSciences C. 4; C; Adona Medical, Inc, Amnis Therapeutics, (Purchased by Boston Scientific October 2017), Blink TBI Inc., Buffalo Technology Partners Inc., Cerebrotech Medical Systems, Inc., Cognition Medical, Endostrea.

E-133 ENDOVASCULAR THROMBECTOMY VERSUS STANDARD MEDICAL THERAPY ALONE IN ACUTE POSTERIOR CEREBRAL ARTERY OCCLUSION: A SYSTEMATIC REVIEW AND POOLED ANALYSIS OF LITERATURE
A. Monteiro*, S. Khan, M Waqas, N Ruggiero, H Rai, A. Baig, R. Dossani, J. Cappuzzo, E. Levy, A. Siddiqui. Neurosurgery, University at Buffalo Neurosurgery, Buffalo, NY; 1; C; Neurosurgery, Jacobs School of Medicine and Biomedical Sciences, Buffalo, NY; 2; C; Neurosurgery, University at Buffalo, Buffalo, NY
10.1136/neurintsurg-2021-SNIS.228

Introduction Acute posterior cerebral artery (pCAsO) accounts for 5-10% of all ischemic strokes and can lead to significant disability involving a varied range of neurological syndromes with visual and cognitive deficits. In spite of this significant burden, these patients were largely excluded or under-represented in the major randomized trials of mechanical thrombectomy (MT), and the benefit of this modality over medical therapy alone remains controversial and uncertain.

Methods We performed a comprehensive systematic search of PubMed, MEDLINE and EMBASE databases following the Preferred Reporting Items for Systematic Reviews and Meta Analyses (PRISMA) guidelines. We used keywords combined with Boolean operators to increase search sensitivity and specificity: “posterior cerebral artery”; “thrombolysis”; “thrombectomy”. Patients were allocated to pooled groups based on the