



Abstract E-120 Figure 1

to discharge (withdrawal of care in two patients with basilar artery occlusion). Complications included one intracranial/extradural non-flow limiting dissection and one sICH. Limitations included: Small sample size, retrospective review, variation in data collection due to differences in institutional records and short time to follow up.

Conclusion Initial experience with the new Stryker Neurovascular Vecta 071/074 aspiration catheters suggests that high TIC1 2C/3 reperfusion rates can safely be obtained using direct aspiration in a majority of cases. Stent retrievers can be reserved for cases where grappling hook technique is necessary to deliver the aspiration catheter to the clot or for rescue thrombectomy.

Disclosures S. Satti: 2; C; Stryker Neurovascular, Medtronic Neurovascular, Penumbra Neurovascular, Cerenovus Neurovascular, Terumo. T. Sivapatham: 2; C; Penumbra Neurovascular. E. Almallouhi: None. T. Eden: None. A. Spiotta: 2; C; Minnetronix Neurovascular, Cerenovus Neurovascular, Penumbra Neurovascular.

E-121 SINGLE CENTER EXPERIENCE WITH A NOVEL FDA-APPROVED PERCUTANEOUS FEMORAL ARTERY CLOSURE DEVICE (CELT ACD®) IN NEUROVASCULAR PROCEDURES

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Purpose Celt ACD® (Vasorum Ltd. Dublin, Ireland) is a unique percutaneously applied vascular closure device that achieves hemostasis through the delivery of a stainless steel (316 LVM) plug which is anchored on both sides of the arterial wall. The extendable wings of the implant provide an immediate vascular closure. We studied the safety and efficacy profile of the Celt in our neurodiagnostic and interventional cases.

Patients and method After obtaining a local IRB approval, Celt was used in all consecutive neurodiagnostic and interventional cases from 2018 to 2019. Patients presented with or without a systemic thrombolytic agent or a dual antiplatelet therapy. A 5, 6 and 7 F Celt system was available for closure. The 7 F device can be used for a femoral sheath size up to 9 F. Recorded data were analyzed for an immediate failure to close the access site, early or delayed migration of the implant, pain or delayed neuropathy, infection, early or delayed hematomas and other unforeseeable complications at the puncture site.

Results Celt was applied in 271 neuro-endovascular procedures in a total of 204 patients (M: F ratio 1.4: 1; age range 24 - 93 years). Majority of subjects (72%) presented either on systemic thrombolytic agents (tPA or Heparin) or were placed on a dual antiplatelet agent prior to the procedure. The closure device was used for a right femoral artery access in 76.4%, left femoral artery in 19.9%, right femoral vein in 1.48% and left femoral vein in 2.2% of the cases. The most common implant used was a 5 F system (55.7%), followed by a 6 F (26.19%) and a 7 F (18.08%) system. Three (1.4%) major complications and 18 (8.8%) minor

complications were observed. We encountered in our early learning stage a failed attempted placement of Celt in one venous and one arterial access each (0.98%) that remained asymptomatic. In one of these cases the Celt implant was accidentally deployed without properly attaching to the arterial wall. The device was dislodged into the popliteal artery without any flow restriction and the patient remained asymptomatic. Other adverse events were a complete and symptomatic occlusion of right external iliac artery, 1 patient presented with a delayed peripheral neuropathy. No early or delayed hematomas were observed whenever a proper device placement was achieved. On follow-up angiograms, several months following the placement, Celt implants were found in 18 cases adjacent to the arterial wall within the soft tissue. The extravascular migration remained asymptomatic and has previously been observed with other closure devices and may be related to arterial pulsation.

Conclusion Based on our experience Celt is very easy to use and an exceptionally safe and effective percutaneous closure device.

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E-122 THE FEASIBILITY AND EFFICACY OF TRANS-RADIAL ACCESS FOR MECHANICAL THROMBECTOMY IN ISCHEMIC STROKE: A SYSTEMATIC REVIEW OF THE LITERATURE

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Background/Purpose The use of the radial artery to access the cervical and cerebral arteries is gaining popularity in the neuro-interventional field. This trans-radial approach (TRA) avoids the tortuosity that could be encountered in the aortic arch thereby shortening procedural times. This could be relevant in stroke endovascular thrombectomy procedures where time is critical. Large randomized controlled trials of coronary interventions have demonstrated that a TRA is associated with better outcomes and fewer access site complications than trans-femoral access (TFA). We conducted a systematic review to assess the safety and potential advantages of TRA for mechanical thrombectomy in adults with ischemic stroke.

Materials and methods We conducted a Medline search of the literature, including studies published in full in the English language with ≥ 5 adult patients with acute ischemic stroke reporting on the procedures, success, and complications of TRA (\pm TFA). Clinical and procedural variables were extracted and tabulated.

Results Sixty-eight studies were screened and five met our inclusion criteria. All studies were retrospective and conducted in the United States of America. A total of 73 patients with acute ischemic stroke underwent mechanical thrombectomy (median age 79 years, median initial NIHSS 18). In two studies, TFA was initially attempted but failed. Only one study included a TFA comparison group (n=33 patients). Mean access to reperfusion time was 76.3 ± 36.0 minutes (median 61.1, range 35.8–132 minutes) in TRA vs. 54.0 ± 29.0 minutes (median 54.0, range 46–62 minutes) in TFA. Successful reperfusion (Thrombolysis in Cerebra Infarction score [TICI] $\geq 2b$) was reported in 89% of the patients. Failure to reach the target occlusion was reported in 9% of TRA cases.

Conclusion TRA shows promising efficacy and efficiency for endovascular thrombectomy. Some of the available literature mostly reflects TRA use as a rescue access after failure to obtain TFA resulting in delaying reperfusion. Whether the routine use of TRA will result in comparable reperfusion rates to TFA and faster time to reperfusion is to be shown. Future studies on the TRA in stroke need to separately report the results of learning-phase cases and rescue TRA access.

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E-123 IMPROVED TICI GRADES IN PATIENTS WITH ACUTE LVO USING MECHANICAL THROMBECTOMY DUAL ASPIRATION TECHNIQUE FIRST 20 CASES

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Background and purpose Endovascular Mechanical Thrombectomy is the established standard of treatment for acute ischemic strokes for patients with large-vessel occlusions. Mechanical Thrombectomy techniques are well established in the literature which include many direct catheter aspirations and a choice of various stent retrievers or a combination of the above. Additionally some recent clinical studies demonstrate better procedural and clinical outcomes with balloon guide catheters vs other vascular accessories catheters.

Materials and methods We retrospectively compiled and reviewed the clinical and imaging outcomes of the last 20 consecutive patients who presented with acute intracranial LVO (January 2, 2019 - March 13, 2019) who were treated with emergent MT with concomitant stent retriever and Dual Aspiration Technique[®] (Penumbra and Stryker Aspiration at the level of both distal access catheter and carotid/vascular access sheath catheter).

Results Pt age range 59–105 years, average age-78.5 years, TICI 3 - 9 patients, TICI2 B - 10 Patients, TICI 2A - 1, Successful recanalization rate% TICI 2B/3 - 95%. Average time to reperfusion- 53.6 minutes. Failure rate- 0%.

Conclusion Mechanical thrombectomy utilizing stent retriever and concomitant Dual Aspiration Technique appears to be feasible and effective for removal of thrombus in patients with AIS for LVO with high success rate of recanalization. Short/midterm clinical data is however needed to for these patients.

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E-124 PERSISTENT TICI 0 AFTER MECHANICAL THROMBECTOMY: INCIDENCE AND INSIGHTS AT A HIGH-VOLUME COMPREHENSIVE STROKE CENTER

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Purpose There is now class 1a evidence for the efficacy of mechanical thrombectomy in patients with acute ischemic stroke and a large vessel occlusion (LVO).^{1 2} Failure to recanalize portends a poor prognosis for the patient with a decreased chance for a good function outcome (modified