Surpass Streamline was the FDS utilized in all cases. An average of 2 +/- 1 FDS devices were utilized (range 2–4 FDS), with each case utilizing a laser-cut nitinol carotid stent as proximal anchor stent. Each case received 1 proximal anchor stent with average stent diameter of 7 +/- 1 mm (range 6–8 mm) and length of 42 +/- 12 mm (range 30–60mm). No cases of stent migration or proximal neointimal hyperplasia were seen on most recent control angiography.

Conclusion Utilization of the proximal anchoring technique on FDS constructs in the mobile cervical ICA segment may provide additional protection from stent migration and intimal reaction attributed to patient neck movement post-procedure.

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E-184 TRANSRADIAL APPROACH FOR PEDIATRIC DIAGNOSTIC AND NEUROINTERVENTIONAL SURGERY: SINGLE CENTER CASE SERIES AND SYSTEMATIC REVIEW


Background Recent widespread adoption of a transradial approach (TRA) in adults has encouraged its use and expansion in children; however, the safety and feasibility of the TRA in the latter has not been established. We evaluated these characteristics in our pediatric case series and compared our results with those in the literature.

Methods Our prospectively maintained database was retrospectively searched for consecutive patients ≤18 years of age who underwent diagnostic and interventional neuroangiography through the TRA. Patient demographics, indications for the procedure, use of ultrasound guidance, arterial size at the access site, and post-procedure complications were recorded. For the literature review, systematic searches of PubMed, MEDLINE, and Embase databases were conducted using keywords with Boolean operators (‘radial artery’ AND ‘pediatric’) for studies published in English between January 2000 and September 2021. Continuous variables were reported as means or medians and respective standard deviations and interquartile ranges according to data normality. Categorical variables were reported as frequencies.

Results Twenty-one patients were included in our series (mean age, 16.6±2.23 years, range 9–17 years; male, 11[52.4%]). The TRA was used for diagnostic angiography in 15 cases (71.4%) and intervention in 6(28.6%). Ultrasound guidance and a ‘radial cocktail’ (verapamil-heparin-nitroglycerin) were used in all cases. Mean radial artery access-site diameter was 2.2±0.46mm. Two cases (9.5%) required conversion to femoral access. Two patients (9.5%) suffered reversible vasospasm. No radial artery occlusion or permanent neurologic deficits were recorded. Our systematic review showed similar results for vasospasm rates and procedural outcomes.

Conclusions Our results and the literature review demonstrate that the TRA is a safe and feasible option for pediatric patients. Routine use of ultrasound guidance, selection of appropriately sized catheters, and prophylactic use of vasodilators and antispasmodics can help ensure the success of the procedure and limit common access-site complications.

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E-185 MEDICAL MANAGEMENT OF IN-STENT STENOSIS FOLLOWING PIPELINE EMBOLIZATION OF BRAIN ANEURYSMS

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Introduction Flow diversion of intracranial aneurysms with the Pipeline embolization device (PED) may produce angiographically apparent stenosis within the PED, which can lead to secondary ischemic complications. In-stent stenosis can be treated medically with dual antiplatelet therapy (DAPT), but the safety and efficacy of this approach is unknown. In this work, we review the safety and efficacy of DAPT to prevent progression of in-stent stenosis or development of cerebral ischemia.

Methods Clinical and angiographic data from eligible patients were assessed from a prospectively maintained neurointerventional database. Details surrounding in-stent stenosis and DAPT were extracted. Patients were included in this study if in-stent stenosis was detected at any angiographic follow-up and managed with DAPT. The primary efficacy endpoint was lack of angiographic progression of in-stent stenosis or new ipsilateral infarct following initiation of medical therapy.

Results In total, 23 PED constructs developed in-stent stenosis and were managed with DAPT. Follow-up angiography was available for 19 constructs. 89% (17/19) of PED constructs achieved the primary endpoint of lack of stenosis progression and new ipsilateral ischemic events. Of the two PED constructs that failed to achieve the primary endpoint of this study, one demonstrated worsening of in-stent stenosis from 55% to 76% over 16 months, while the other developed ipsilateral ischemic stroke 4 months after detection of in-stent
Abstract E-185 Figure 1

MIDDLE MENINGEAL ARTERY EMBOLIZATION WITH N-BUTYL-2-CYANOACRYLATE (NBCA) FOR MANAGEMENT OF CHRONIC SUBDURAL HEMATOMA, A SINGLE CENTER EXPERIENCE


Introduction Chronic subdural hematomas (CSDH) with recurrence after burr hole irrigation cause significant morbidity, especially in elderly population where prevalence is higher. Use of N-butyl-2-cyanoacrylate (NBCA) has proven to be an effective and safe therapeutic agent for embolization of middle meningeal artery. In our study we present a retrospective analysis of 20 patients who underwent MMA embolization.

Methods In a prospectively maintained database in a single center we retrospectively analyzed 20 patients that were admitted to our institution that were diagnosed with CSDH and underwent MMA embolization with NBCA between January 1st, 2021 and December 31st, 2021. Primary endpoint was imaging stability and/or near stability, need for surgical intervention (burr hole drilling and irrigation) may increase morbidity and hospital stay and may not address the primary cause of bleeding. Randomized trials will help determine if MMA embolization is safe and effective for treatment of CSDH reducing morbidity and mortality.

Results A total of 20 patients that required non-emergent MMA embolization were included in our study. 70% (14) were patient that were admitted for change in mental status secondary to other reversible causes of encephalopathy. Other patients, 30% (6) underwent MMA embolization as an elective procedure. Out of the 20 patients, 100% had resolution of CSDH defined by stability of hematoma on head computed tomography (CT) on the week after the procedure, 1 month, and 3 months later. As well, all patients had an mRS of <2 at 1 and 3 months. None of the patients included required surgical intervention with irrigation for resolution of SDH after MMA embolization.

Conclusion MMA embolization with NBCA is an effective and safe method for management of CSDH as has been shown in prior retrospective studies. Surgical intervention with burr hole drilling and irrigation may increase morbidity and hospital stay and may not address the primary cause of bleeding. Randomized trials will help determine if MMA embolization is safe and effective for treatment of CSDH reducing morbidity and mortality.