containing device from 7/2018 through 3/2021. Clinical, radiological, and outcome data were analyzed.

Seven patients (100% female) with documented nickel (4) or other metal (3) allergies with 9 cerebrovascular lesions underwent treatment using a total of 9 nickel containing devices (7 flow-diverting and 2 self-expanding stents). No peri-procedural complications including any apparent allergic reactions, thromboembolic events, or in-stent stenoses occurred. None of these patients received peri-procedural treatment with steroids or antihistamines. Clinical follow-up is available for all patients (mean=18.5months, range=5–37.5months) with no evidence of procedurally-related neurological symptoms or symptoms attributable to nickel/metal allergic reactions. Angiographic follow-up is available for 6 of the 7 patients (mean=6months; range=0.5–14.5months). In 5 of these 6 patients, complete obliteration of their 7 vascular lesions with no evidence of in-stent stenosis or other vessel pathology was achieved.

In this case series, the endovascular treatment of cerebrovascular lesions in patients with documented nickel and other metal allergies with a nickel-containing device did not result in any adverse outcomes and was overall safe and effective.

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E-252 FIRST-LINE THROMBECTOMY STRATEGY FOR DISTAL LARGE VESSEL OCCLUSIONS: A SYSTEMATIC REVIEW

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Background and Purpose Distal intracranial vessels have a longer access route, smaller caliber, and thinner wall compared to proximal intracranial arteries. Therefore, distal large vessel occlusions (LVOs) were not an initial target for mechanical thrombectomy (MT) and were excluded from all MT trials. As a result, the benefit of MT and efficacy of different MT techniques remain unclear for distal LVOs. In this systematic review, we aimed to compare the performance of different thrombectomy techniques in distal LVOs.

Methods PubMed database was searched for studies examining the utility of MT in distal LVOs (MCA M2–3-4, ACA, and PCA). Studies providing data for aspiration thrombectomy (ASP), stent retriever thrombectomy (SR), and combined ASP + SR technique were included. Noncomparative studies were excluded. The following outcomes were assessed: Successful recanalization (TICI $\geq$ 2b), functional independence (mRS: 0–2), and symptomatic intracranial hemorrhage (sICH). Nested Knowledge AutoLit platform was utilized for literature search, screening, and data extraction. Pooled data were presented as descriptive statistics for each thrombectomy technique.

Results Seven studies comprising 1051 MT procedures were identified. Separate data for first-line thrombectomy method were available in 869 cases (ASP: 195; SR: 325; SR + ASP: 349). The overall successful recanalization rate was 81% (854/1051) for distal LVOs. SR (85%, 276/325) and ASP + SR (84%. 292/349) had higher successful recanalization rates compared to ASP alone (71%, 140/195). The overall functional independence rate was 55% (502/903) among distal LVOs. The ASP alone group had the lowest functional independence rate (50%, 98/194), and functional independence rates of SR and SR + ASP groups were 57% (174/304) and 62% (174/282), respectively. Finally, rates of sICH prevalence were 14% (14/99) for ASP group, 5% (9/175) for SR group, and 1% (1/80) for SR + ASP group.

Abstract E-252 Table 1 Safety and efficacy outcomes of the first-line thrombectomy strategies

	ASP	SR	ASP + SR
Successful recanalization (%, n/N)	71, (140/195)	85, (276/325)	84, (292/349)
Functional independence (%, n/N)	50, (98/194)	57, (174/304)	62, (174/282)
sICH (%, n/N)	14, (14/99)	5, (9/175)	1, (1/80)
Subarachnoid hemorrhage (%, n/N)	1, (2/118)	12, (24/199)	12, (38/323)

ASP, aspiration; SR, stent retriever; ASP + SR, combined aspiration and stent retriever technique; sICH, symptomatic intracranial hemorrhage.

Conclusions Our systematic review supports that MT is a safe and effective treatment option for distal LVOs. Additionally, in our study, SR and SR + ASP groups had better safety and efficacy outcomes compared to ASP alone. However, further research is needed to better compare the performance of first-line MT strategies in distal LVOs.

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E-253 INITIAL SINGLE CENTER EXPERIENCE WITH THE NEW 4TH GENERATION PIPELINE VANTAGE FLOW DIVERTER WITHSHIELD TECHNOLOGY

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Background Flow diversion is an increasingly used technology for the treatment of intracranial aneurysms.[1] The Pipeline Vantage Embolisation device (PVED) is the fourth-generation flow diverter, featuring several modifications in comparison to its precursor designed to improve device delivery, visibility, precision of distal opening and deployment and also improved aneurysm occlusion, endothelisation and decreased thrombogenicity.[2] The device has two platforms with a 64 wire PVED that is delivered through an 027 microcatheter and a smaller diameter 48 wire PVED delivered through a 021 microcatheter. This study describes the results in patients treated with PVED, as well as technical considerations and differences of the new device.

Methods Data of patients (80% female, mean age of 58 years) with intra and extracranial aneurysms electively treated with PVED at a single institution was prospectively collected and retrospectively analysed. Patient demographics, aneurysm characteristics, procedural parameters, device properties and related technical properties, imaging follow-up data assessed by core lab adjudication, immediate, early (<30 days) and delayed (>30 days) neurological complications were assessed and documented.

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