Results GFP immunohistochemistry and qPCR showed stronger transduction profiles in the parietal cortex in the CPA cohort compared to CM and modest increase of GFP in the dorsal midbrain. Strong immunoreactivity was also observed in the ventral aspect of the cingulate gyrus. Vector genome quantification of different brain structures showed comparable results between CPA and CM injection routes.

Conclusion CPA delivery of AAV9 resulted in increased transduction of the parietal and cingulate cortex, comparable to that observed with CM injections. Provided is preliminary evidence that CPA infusion of gene therapy is safe and provides widespread distribution throughout the brain.

Disclosure of Interest AM, CH,BB: Cerevasc
HB, VA, EH, aL, RK, HG: Nothing to disclose
MG: No relevant disclosures

P111/88 ABSORBABLE GELATIN COMPRESSED SPONGE (GELFOAM) EMBOLIZATION OF DISTAL EXTERNAL CAROTID ARTERY BRANCHES IN INTRA-ARTERIAL CHEMOTHERAPY FOR RETINOBLASTOMA

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Introduction In intra-arterial chemotherapy for retinoblastoma, a backflow from unreachable external carotid artery branches in the ophthalmic artery can be challenging.

Aim of Study We describe a novel endovascular technique using Gelfoam® pledgets to occlude temporarily those distal external carotid artery branches to halt this competitive backflow.

Methods We queried our prospectively collected database of 327 consecutive patients treated for retinoblastoma by intra-arterial chemotherapy and identified those employing Gelfoam® pledgets. We describe this new technique with emphasis on feasibility and safety.

Results We treated 11 eyes with 14 infusions of intra-arterial chemotherapy using Gelfoam® pledgets to occlude the distal branches of the external carotid artery. We report no perioperative complications due to this occlusion technique. At the ophthalmologic follow-up one month after the injection of Gelfoam® pledgets, all cases showed tumor regression or stable disease. Two injections into the same eye as the rescue intra-arterial chemotherapy infusion resulted in a transient exudative retinal detachment, and one injection in a heavily pre-treated case was followed by iris neovascularization and retinal ischemia. None of the pledget injections led to irreversible vision-threatening intraocular complications.

Conclusion Intra-arterial chemotherapy in retinoblastoma using Gelfoam® to transiently occlude the distal branches of the external carotid artery and reverse the backflow into the ophthalmic artery seems feasible and safe. Larges series will help to confirm the effectiveness of this new technique.

Disclosure of Interest Nothing to disclose

P112/92 THE CURRENT DIAGNOSTIC PERFORMANCE OF MRI-BASED RADIOMICS FOR GLIOMA GRADING

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Introduction Multiple radiomics-based models have been proposed for glioma grading with different magnetic resonance imaging sequences, models, and features.

Aim of Study Given the heterogeneity and rapid expansion of radiomics for glioma grading, we aimed to better define the overall performance of these different techniques.

Methods We conducted a systematic review of the literature and a meta-analysis of studies reporting on radiomics for glioma-grade prediction. A comprehensive literature search of the databases PubMed, Ovid MEDLINE, and Ovid EMBASE was designed and conducted by an experienced librarian with input from the authors. We estimated overall sensitivity (SEN) and specificity (SPE). Event rates were pooled across studies using a random-effects meta-analysis, and the χ^2 test was performed to assess the heterogeneity.

Results Overall SEN and SPE for differentiation between low-grade glioma (LGG) and high-grade glioma (HGG) were 91% and 84%, respectively. As for the discrimination task between WHO grade III and WHO grade IV, the overall SEN was 89% and the overall SPE was 81%. There is a better trend for modern non-linear classifiers while textural features are the most used and the best-performing (28.6%).

Conclusion The current diagnostic performance of radiomics for glioma grading is higher for the LGGs vs. HGGs discrimination task than the WHO grade III vs. IV task, both in terms of SEN and SPE. In the forthcoming years, we expect even more precise models, especially for the LGGs vs. HGGs categorization.

Disclosure of Interest Nothing to disclose

O113/97 SINGLE CENTER EXPERIENCE WITH 253 NEUROINTERVENTIONS PERFORMED WITH RIST RADIAL ACCESS SYSTEM

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Introduction Transradial access (TRA) for endovascular procedures has gained popularity in neurointerventional society. The RIST 079 Radial Access System (Medtronic) is the first available device dedicated to TRA. To the best of our knowledge, we present the largest cohort of patients treated with RIST TRA.

Aim of Study To evaluate the application, safety, and limitations of the RIST catheter.

Methods Neurointerventional procedures in a single institution from April 2021 to April 2023 with TRA with RIST catheter

were retrospectively evaluated. Information on demographic, indications, procedure type, complications, and success rate, defined as the ability to finish the procedure without switching to a different access site or catheter, were reviewed.
Results 237 Patients underwent 253 neurointerventional procedures. Right radial artery was used in most cases (98.4%); classic TRA was slightly more frequent than distal (57.3% vs. 42.7%). The most common procedure was stent-assisted coiling (24.5%), followed by simple coiling (17.4%), mechanical thrombectomy (15.4%), and arterio-venous malformation embolization (13.4%). The success rate was 97.2%, with 5 patients requiring conversion to femoral access, and 2 patients requiring additional femoral access. There were 3 access site complications: 1 forearm hematoma and 2 radial artery spasms. There were also 2 other procedural complications: 1 small ischemic infarct and 1 intracerebral hemorrhage.
Conclusion RIST Radial Access System is an effective tool for various neurointerventions. With a low conversion rate, it provides safer access than the femoral approach. Soon, like in cardiology, TRA, especially with RIST catheter, may become the standard of care in interventional neurosurgery.
Disclosure of Interest Nothing to disclose

P114/135 DRUG-COATED BALLOONS FOR TREATMENT OF IN-STENT RESTENOSIS FOLLOWING CAROTID ARTERY STENTING: A MAJOR CASE, SINGLE CENTER STUDY

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Introduction Endovascular and surgical treatment of stenosis of the internal carotid artery (ICA) inherit a certain risk of restenosis due to endothelial hyperplasia. Drug-coated balloons (DCBs) are designed to reduce neointimal hyperplasia by transferring growth-inhibiting drugs to the endothelium, but they are rarely used in the neurovascular setting.

Aim of Study: Assess the effectiveness of DCB and determine the frequency of recurrent ISRS, and factors that may influence its occurrence.
Methods In our center between 2010 and 2023, 109 patients received DCB treatment for in-stent restenosis of ICA. Their medical history, periprocedural, and follow-up data were analyzed. All patients received periodical follow-up through digital subtraction angiography, ultrasound examinations and tomographic imaging.
Results ISRS was diagnosed in the mean follow-up time of 18.7 months (1–180 months) following carotid artery stenting. In-hospital major stroke complication occurred in 1 patient (0.9%). No minor stroke or TIA occurred, yet, in 23 patients (21.1%) clinically inapparent DWI-lesions were detected in postprocedural MRI. 17 patients (15.6%) had recurrent ISRS after DCB treatment in the mean follow-up period of 30.8 months (7–85 months). Diabetes mellitus and tobacco use were common risk factors for recurrent ISRS. The DCB treatment with Sequent® Please NEO resulted in a lower incidence of recurrent ISRS and a longer time-to-restenosis.
Conclusion In our practice, DCB offers a straightforward option to treat restenosis of the ACI ostium. The low rate of periprocedural complications and the median time of freedom from symptoms and/or restenosis suggest that DCB angioplasty for ISRS is a viable treatment.
Disclosure of Interest Nothing to disclose

P116/177 MECHANICAL THROMBECTOMY WITH A NEW INTERMEDIATE BALLOON CATHETER COMBINING THE BGC AND DAC FEATURES: INITIAL CLINICAL EXPERIENCE WITH THE INEDIT DEVICE

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Introduction The iNedit Balloon Distal Access Catheter is a new type of thrombectomy device featuring a balloon catheter positioned 5cm from the tip, allowing for intracranial flow restriction while also enabling combined therapy with stent-retrievers and distal aspiration.
Aim of Study We investigate the appraisal of the use, safety, and efficacy of the iNedit catheter in vivo.
Methods In a multicentric study, prospective data was collected on 22 patients treated with the iNedit catheter to perform thrombectomy for acute ischemic stroke due to large vessel occlusion.

The outcome measures consisted of several evaluations of user experience rated on a 5-point scale ranging from 1(bad) to 5(excellent), as well as assessments of procedural safety outcomes such as artery perforation and arterial occlusion, procedural efficacy outcomes including first pass effect and final recanalization, and clinical efficacy outcomes such as a 3-month 0–2 mRS.
Results The mean age was 72±12 years old; median NIHSS was 17 (11–19); occlusion were 12 M1-MCA, 7 M2-MCA and 3 other. Median score evaluation of the appraisal of use was 4-IQR[4–5]. First pass complete recanalization rate was 50% (75% FPE in proximal M2 location), and the final recanalization rate (TICI 2b-3) was 90.9% of patients. No artery perforation and arterial occlusion. Good functional outcome mRS 0–2 was achieved in 50% of patients.
Conclusion In this initial clinical experience, the iNedit device achieved a high rate of first-pass effect and final recanalization rate with no safety concerns, thus favoring a high percentage of good clinical outcomes.
Disclosure of Interest Alejandro Tomasello has received personal fees from Anaconda Biomed, Balt, Medtronic, Perflow, and Stryker

P117/179 TREATMENT OF NORMAL PRESSURE HYDROCEPHALUS USING THE ESHUNT ENDOVASCULAR TRANSVENOUS IMPLANT

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