validate an MRI based algorithm to reliably quantify the iron levels in the periphery of the hematoma.

Methods Institutional IRB was obtained for the study. We secured NIH funding to undertake the study in September 2018. We recruited 10 patients based on inclusion and exclusion criteria established for the study. The study protocol was to obtain MRI at day 3, 14 and 30 following ICH. The MRI scans were performed without contrast. The sequences performed were T1, T2 and PADRE plus a multi-echo susceptibility weighted sequence. Relaxivity (1/T2* - R2*) maps were then created utilizing the multi-echo sequence in Matlab. Two consecutive volumes of interest (VOI) 1 & 2 rings were then manually drawn on the maps around the periphery of the hematoma, on all the axial slices demonstrating the hematoma, on all available date points in each individual patient. Identical contralateral brain VOI (Normal Control - NC) was also drawn at each corresponding MRI axial image slice. The average measurement values were then tabulated at pre-specified time points over a period of one month following the ICH. The R2* value was then extrapolated to an iron concentration (IC) measured from an iron phantom MRI with identical sequences.

Results 10 eligible patients with ICH and two controls were recruited to the study. The Mean R2* value Day 3: VOI 1; 53.59 (SD: 6.01) - IC 0.16 SD 0.02, VOI 2: 28.35 (SD: 5.17) - IC 0.08 SD 0.02, NC: 19.47 (SD: 2.85) - IC 0.05 SD 0.01. Day 14: VOI 1; 47.97 (SD: 5.43) - IC 0.14 SD 0.02, VOI 2: 27.19 (SD: 2.19) - IC 0.08 SD 0.01, NC: 18.94 (SD: 1.62) - IC 0.05 SD 0.01. Day 30: VOI 1; 49.14 (SD: 6.44) - IC 0.15 SD 0.02, VOI 2: 30.10 (SD: 3.41) - IC 0.09 SD 0.01, NC: 19.93 (SD: 2.82) - IC 0.05 SD 0.01.

Conclusion Our study, the first translational study of its kind, shows relatively reliable iron concentration measurements by MRI at the periphery of the hematoma over a period of 1 month following the ICH, showing good correlation with previous animal study data over a similar duration. Larger study is needed with extended 180 day follow up to further validate the measurement algorithm with a view to potentially becoming an MRI based risk stratification strategy in ICH patients. In addition, the algorithm may be utilized for monitoring iron chelate therapy in ICH.

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O-030 OPTHALMIC ARTERY CHEMOTHERAPY IN RETINOBLASTOMA

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Purpose To evaluate the safety and efficacy of intra-arterial chemotherapy (IAC) for the treatment of children with retinoblastoma.

Methods and materials Retrospective chart review of all pediatric patients with retinoblastoma treated with intra-arterial chemotherapy was performed. Common femoral artery was accessed with the placement of 4Fr sheath in all procedures using ultrasound guidance. Marathon microcatheter was used with .008 or .010 inch wire. Initial angiography of the internal carotid artery was performed to evaluate the territories supplied by the ophthalmic artery and to exclude variant anatomy.

Results Sixty-six ophthalmic arteries in 16 patients (M:F=7:9; mean age= 21 (±9.2) months) were catheterized for IAC. The median time for each procedure was under 30 minutes. Three patients had unilateral and 13 had bilateral retinoblastoma. forty-four infusions were performed through the right and 22 through the left side ophthalmic artery. The median number of IAC cycles per patient was 4.1. The Technical success rate was 98% (65 out of 66 procedures) excluding one patient due to the complex anatomy. Hypersensitivity reaction to Melphalan was seen in 2 patients (one requiring adrenaline) during the catheterization procedure. One child eventually ended in enucleation after 4 cycles of IAC.

Conclusions Intra-arterial chemotherapy is an acceptable treatment option for retinoblastoma with a considerable high success rate and low rate of complications; however, attention must be paid to the technical nuances of and indications for its use in order to avoid potential complications.

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O-031 ROLE OF RESISTIVITY INDEX ANALYSIS IN THE PREDICTION OF HEMODYNAMICALLY SIGNIFICANT VENOUS SINUS STENOSIS IN PATIENTS WITH IDIOPATHIC INTRACRANIAL HYPERTENSION

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Background The resistivity index (RI) in cerebral venous sinus stenosis (VSS) has not been studied in patients with idiopathic intracranial hypertension (IIH).

Objective To evaluate the role of resistivity index (RI) measured by quantitative MRV (QMRV) as a non-invasive tool in the diagnosis of venous hypertension associated with VSS in idiopathic intracranial hypertension (IIH).

Abstract O-031 Table 1 Demographic data and RI between patient and control

	Patients n=13	Control n=13	P value
Patients' demographics			
Age (years)	46.6 ± 15.1	39.9 ± 19.4	0.34
Gender (female) n (%)	10 (76.9%)	9 (69.2%)	0.13
Body mass index (BMI)	28.9 ± 8.5	25.9 ± 7.5	0.35
Lumbar puncture opening pressure (mmHg)	37.2 ± 6.6	_____	_____
Unilateral VSS n (%)	11 (84.6%)	_____	_____
Resistivity index (RI)			
Superior sagittal sinus	0.21 ± 0.12 (95% CI 0.14 - 0.28)	0.11 ± 0.06 (95% CI 0.08 - 0.15)	**0.01**
Transverse sinus	0.22 ± 0.12 (95% CI 0.15 - 0.30)	0.13 ± 0.07 (95% CI 0.09 - 0.17)	**0.03**
Sigmoid sinus	0.15 ± 0.06 (95% CI 0.12 - 0.19)	0.11 ± 0.06 (95% CI 0.07 - 0.14)	0.07

All values are presented as (mean ± SD) unless indicated otherwise. Boldface type indicates statistical significance. VSS; venous sinus stenosis, CI; confidence interval