

hemostatic clips were applied followed by surgically disconnection. Finally, intraoperatively video angiography as well as spinal DSA were performed for confirmation. *Conclusions:* MIS disconnection with intraoperative DSA is a safe and effective technique for treating spinal dAVFs. Patients benefit from quicker recovery and shorter hospital stay.

P.121

Open surgical trans-venous Onyx embolization of Rolandic arteriovenous malformations: case report and review of literature

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Background: Premature occlusion of draining veins during surgical resection of arteriovenous malformations (AVM's) can lead to disastrous consequences. Interestingly, some authors have recently demonstrated effective endovascular trans-venous Onyx embolization of select AVM's. *Methods:* Case report *Results:* A 71-year old female presented to the hospital with sudden onset right sided weakness and sensory change. Investigations revealed right fronto-parietal ICH secondary to a parasagittal Rolandic AVM with arterial supply from ACA and MCA branches. Drainage occurs via a single large cortical vein to the superior sagittal sinus. Partial intra-arterial embolization was initially performed. Surgical resection of the remaining nidus was deemed high risk. A craniotomy was performed and the large cortical draining vein was cannulated with a 4Fr micro-puncture system under direct visualization. A DMSO compatible micro-catheter was navigated retrograde close to the nidus. The draining vein was occluded using a surgical clip, and Onyx was immediately injected. Retrograde complete embolization of the AVM was observed. A total of 3ml of Onyx was injected, and the catheter was left in-situ. Patient was discharge 2 weeks later with minimal deficits. *Conclusions:* Open trans-venous embolization is a viable option for select AVM's with a single draining vein and are not favorable candidates for trans-arterial embolization, surgery or radiation.

PEDIATRIC NEUROSURGERY

P.122

Restricted diffusion of white matter in infants with subdural hematoma

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Background: Inflicted head injury is a major cause of infant morbidity and mortality. The extent of traumatic brain injury in infants is often best characterized by diffusion weighted magnetic resonance imaging. In this cases series we describe four infants aged 6-19 months, with small unilateral subdural hematomas secondary to abusive head trauma accompanied by extensive areas of restricted diffusion weighted imaging isolated to the cerebral white matter. *Methods:* Retrospective, single-centre case series of four children

with small unilateral subdural hematomas with early and delayed MR imaging with diffusion weighted imaging. *Results:* In three cases there was acute diffusion restriction ipsilateral to the subdural, while in one case diffusion restriction was present bilaterally. All patients had multiple seizures and bilateral multilayered retinal hemorrhages. After non-surgical treatment, all patients survived albeit with significant motor and cognitive deficits and significant cortical atrophy on long-term followup imaging. *Conclusions:* These four cases highlight that relatively small subdural hematomas following child abuse can manifest with extensive white matter injury only evident at early stages with diffusion weighted imaging. We propose that selective white matter injury as a result of either reperfusion or axonal degeneration in response to the initial insult accounts for this novel pattern of infantile traumatic brain injury.

P.123

Assessing level of awareness, attitudes and beliefs toward pediatric congenital neurosurgical conditions

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Background: Community awareness, attitudes and beliefs toward pediatric patients diagnosed with congenital neurosurgical conditions is not known in the Saudi population and the number of studies is few worldwide. Such attitudes have a direct impact on the quality of life of patients with these congenital conditions. This study aims to demonstrate the variation in awareness, attitudes and beliefs in the public and among health-care professionals towards patients diagnosed with congenital neurosurgical conditions and its associated factors. *Methods:* A survey consisting of 36 questions pertaining to Hydrocephalus, Brain Tumors and Spina Bifida awareness, attitudes and beliefs was distributed to Saudi citizens living in the eastern province older than 15 years of age among hospitals visitors, medical students, nutritionists, physicians, dentists, pharmacists, and nurses. *Results:* The analysis of the 1002 respondent of the questionnaire shows clear social stigmata and improper awareness, attitudes and beliefs toward pediatric patients diagnosed with congenital neurosurgical conditions. There are variable parameters on interest measured and analyzed and there are certain patterns observed as well. *Conclusions:* The analysis showed the importance of health education for the public to increase the level of awareness and it justifies why these factors should be addressed in the middle of patients' management, community awareness and health planning.

P.124

Meta-analysis comparing predictors of good postoperative seizure control in children with dysembryoplastic neuroepithelial tumors and gangliogliomas

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Background: Dysembryoplastic neuroepithelial tumors (DNETs) and gangliogliomas are the most common cause of tumor-related seizures in children and adolescents. Little is known about predictors of surgical success, in terms of seizure freedom. All relevant papers since 1995 were identified. *Methods:* Over 4000 abstracts were screened on MedLine to identify data comparing tumor type (DNET vs. ganglioglioma)