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Background and Aims We investigate the clinical characteristics and the microsurgery for tumors in the fourth ventricle tumors in children.

Methods The clinical data of 18 cases of pediatric fourth ventricular tumor were prospectively analyzed. The main clinical manifestations were headache (16 cases), vomiting (6 cases), visual impairment and positive Romberg sign. The imagination examination showed the tumor was in fourth ventricle, diametered from 2.5cm to 7cm. On CT or MRI, all the patients manifested with hydrocephalus.

Results Operation was carried out under microsurgical conditions. According to the size and the position the tumor, different operation approach was performed. Median suboccipital approach was adopted for 6 cases, and cerebellomedullary fissure approach for 12 cases. The bone window was 4cm×3cm. Total removal of the tumor was made for 16 cases, subtotal removal for 2 cases. Eight patients had external ventricular drainage during operations. The postoperative pathology finding were as follows. There were 13 cases of medulloblastoma, 2 cases of hemangioblastomas, 2 cases of ependymomas, and 1 case of pilocytic astrocytoma. Postoperative radiotherapy was achieved for 11 patients. The main symptoms were all improved for all patients. There were no complications and recurrence of tumors after follow-up of 2 years.

Conclusions According the size, the position and the pathological findings, the combined therapy is essential, and microsurgery is effective for tumors in the fourth ventricle tumors in children.

978 WITCH DRUGS CHOOSE FOR SEDATION FOR COMPUTED TOMOGRAPHY IMAGING IN PEDIATRIC PATIENTS, MIDAZOLAM OR PROPOFOL?

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Objective To compare safety and efficacy between propofol and midazolam as sedative agents for computed tomography Imaging (CT) in children.

Material and Methods Clinical trial prospective which included 149 children who are sedated either with propofol or midazolam over 6 months period. All children below 6 years were sedated and had I-III ASA. The level of sedation, induction time, efficacy and adverse events were recorded.

Results 66 children are sedated with midazolam (mean age: 1.8years. sex ratio 0.8) and 83 children were sedated with propofol (mean age was 1.9 years; sex ratio 0.6). of the 149 procedures, 76% brain, 18.1 chests, and 4.7% abdomen were scanned with mean duration for midazolam 6.8min and for propofol 7.3min and with the mean dose for midazolam 0.31mg/kg and for propofol 1.66 mg/kg. the Ramsay sedation scale for midazolam was 2-4 and for propofol was 4-5 (p<0.001). The induction time with midazolam was 3.2±3.8min and 2.9±2.5min with propofol. The completion of CT was 80% for midazolam and 95% for propofol (p<0.001). Desaturation was similar between these two drugs. The intervention needed is just the administration of supplemental oxygen. The mean duration of sedation and recovery were also similar.

Conclusion Midazolam and propofol have similar efficacy and safety for computed tomography imaging in children.

979 TRANSCRANIAL DOPPLER (TCD) IN SEVERE TRAUMA BRAIN INJURIES (TBI) IN PEDIATRIC INTENSIVE CARE UNIT (PICU) IN ALGERIA. PRELIMINARY RESULTS

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Background and Aims TCD is a non invasive cerebral circulation monitoring tool by evaluation of cerebral blood flow velocities in the circle of Willis.

The Aim is to show what extent the TCD allows to detect the intracranial hypertension and test the hypothesis that in children with severe TBI, there is a correlation between intracranial pressure (ICP) and TCD values.

Methods Data were prospectively collected from consecutive TCD studies in children with severe TBI undergoing ICP monitoring. For each examination of the TCD we measured the systolic, diastolic and mean velocities respectively, and we calculated the pulsatility index (PI). Middle cerebral artery through the temporal window was used for examinations of the TCD. For each patient 2-4 Doppler examinations have been recorded systematically and at ICP peaks.

Results 58 children underwent 232 TCD. There was a weak relationship between mean values of ICP and PI. Any increase in ICP above 20 mmHg was accompanied by a PI > 1.4 with a diastolic velocity < 30 cm/s. The CPP is comparable to the figures estimated by CPP with TCD.

Conclusion TCD has become an essential tool in the management of children for diagnosis of intracranial hypertension. Its use as in particular following traumatic brain injury, and confirmation of a clinical diagnosis of brain death by documentation of cerebral circulatory arrest. Pulsatility index (PI) and diastolic velocity (Vd) give sufficient information to evaluate the resistance status of small downstream arteries and an indicator cerebral hypoperfusion.

980 TRANSCRANIAL DOPPLER MONITORING IN TRAUMATIC BRAIN INJURY IN CHILDREN

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Background and Aims Intracranial hypertension is a serious complication of traumatic brain injury (TBI) in children and adversely affects outcome. Monitoring intracranial pressure (ICP) requires an invasive procedure. The aim of this study was to evaluate the accuracy of a noninvasive method of estimating ICP - transcranial Doppler (TCD) derived Pulsatility Index (PI) - when compared to invasive ICP measurements.

Methods Children admitted to our pediatric intensive care unit with severe TBI and ICP invasive monitoring during the study period (Aug 2008 to Mar 2012) were included in the study. TCD was done in all children and PI calculated.

Results Eighteen children met the inclusion criteria. Male:female ratio was 2.6:1. Mean age at admission was 8.7 years (14 months-17 years). Mortality rate was 11% (2/18). Mean PRISM score was 19 with a predicted mortality rate of 28%. All patients except one had ICP>20 mmHg, with a mean highest ICP of 37 mmHg (16-50). The first measurement of PI had a mean of 1.23 (0.55-2.95). There was a significant correlation between the first PI and corresponding ICP (Pearson correlation coefficient of 0.78; p<0.0001). When all PI were considered (41 measurements) the correlation was not significant. After excluding TCD with signs of vasospasm the correlation was again significant (r=0.67, p<0.001).

Conclusions PI is a non invasive method of evaluating ICP with a strong correlation with invasive ICP measurements at admission. After a few days other factors like vasospasm must be taken into consideration when interpreting PI values.