PICU OUTREACH EDUCATION IMPROVES LOCAL MANAGEMENT OF STATUS EPILEPTICUS (SE)

C Goedvik, R Phutak. North West North UK Paediatric Transport Service, Warrington, UK

Background and Aims In September 2011 results of an audit on the acute management of SE in referring hospitals highlighting safety and feasibility of extubation in some children avoiding transfer to PICU were presented. We re-audited practice to determine whether education had an effect on local extubation rates.

Methods Audit of referral forms with a diagnosis of “seizures”, “SE”, “fit/fitting,” “convulsion” and “epilepsy” from 1 September 2011 till 1 April 2012. Review of discharge summaries and notes of patients transferred to PICU.

Results 56 referrals for seizures (48 patients) in the 7 month period. At referral, 49 patients were intubated. 30 of 49 intubated patients were transferred to PICU, 19 extubated locally. 15 of 30 retrieved and 6 of 15 extubated patients had epilepsy.

Reasons for not attempting extubation included: ongoing seizures (2), Petechial rash (2), transfer for expert opinion (1), previous failed extubation (2) and refusal to assess (2).

All patients managed locally extubated within 6 hours. Extubation in PICU was after < 6 (4), < 12 (7), < 24 (11) or >24 hours (5), data unavailable in 4.

1 patient was re-intubated locally because of further seizures.

Conclusions We found an increase in safe extubations: 18.9% prior and 38.7% after. This re-audit indicates that outreach education by PICU retrieval teams can achieve change in practice. It reconfirms that patients with SE transferred to PICU have a short duration of intubation. Refusal to assess feasibility of extubation by the local hospital can no longer be considered good medical practice.

PERIPHERAL TISSUE NIRS OXIMETRY: REPRODUCIBILITY AND DYNAMIC RANGE OF INVOS 5100C, NONIN EQUANOX, AND FORE-SIGHT

S Hyttel-Sørensen, T Witzner Hessel, G Greisen. Copenhagen University Hospital, Rigshospitalet, Copenhagen, Denmark

Background and Aims Near infrared spectroscopy (NIRS) could be a valuable tool in the NICU, but implementation into standard clinical care has yet to been seen. Different absolute values and dynamics of different devices and poor reproducibility could be the cause. Present study is a comparison between the adult sensors of INVOS 5100C, FORE-SIGHT and NONIN EQUANOX 7600.

Methods 10 repositionings on the same spot and 10 repositionings on slightly differing spots during steady state on the adult forearm followed by 6 cuff inflations to 250 mmHg and subsequent tissue deoxygenation. Reproducibility was estimated by the within-subject standard deviation, Sw, and dynamic range by the difference between the adult sensors of INVOS 5100C, FORE-SIGHT and NONIN EQUANOX 7600.

Results 10 adults participated. All with double skinfold less than 10 mm.

Mean rStO2 was 71.1% (CI 68.4–73.9%), 68.1% (CI 65.2–71.0%), and 65.1% (95% CI 63.3–67.0%) with INVOS, NONIN, and FORE-SIGHT, respectively. NONIN gave significantly higher values than FORE-SIGHT (p=0.003). All other differences were insignificant.

Reproducibility of FORE-SIGHT was best, while the reproducibility of NONIN was worst (table 1). Same-site reproducibility and various-site reproducibility was equal.

In pairwise comparisons ΔrStO2 of NONIN, INVOS and FORE-SIGHT were significantly different (all p<0.0001)(table 2).
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, diametred 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.