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NEW-ONSET REFRACTORY STATUS EPILETICUS (NORSE) IN PEDIATRIC PATIENTS: CAUSES, CHARACTERISTICS AND OUTCOMES

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AIMS & OBJECTIVES: To describe the profile of patients with refractory epileptic status without defined cause, characterized by NORSE (*new-onset refractory status epilepticus*) and to analyze the clinical profile and outcomes of these patients.

METHODS: Retrospective and multicenter study in 2 Pediatric Intensive Care Units (PICU) of university hospitals. We reviewed medical records of all children admitted for refractory epileptic status without a defined cause between December 2013 and December 2017.

RESULTS: We describe 13 patients with NORSE from a total of 807 selected medical records. Nine children were male and twelve were previously healthy. Regarding the NORSE classification, 9 patients had FIRES syndrome (epilepsy related to febrile infection syndrome), and 8 children were classified as having cryptogenic NORSE. All patients required mechanical ventilation (MV), with an average of 32 days, and 15% required tracheostomy. Four patients received gastrostomy or nasogastric tube feeding and 3 patients died.

CONCLUSIONS: This study showed a prevalence of NORSE in males and a high incidence in previously healthy children. The presence of comorbidities in this population was high, and the use of MV was more frequent.

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TOOL VALIDATION FOR NEUROLOGICAL PROGNOSIS IN PEDIATRIC ICU

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AIMS & OBJECTIVES: To validate a prediction tool for favorable neurologic outcome and identify the possibility of its use as a new PICU quality indicator. Determine risk factors that impair neurological prognosis in order to reduce new morbidities of survivors.

METHODS: Retrospective cross-sectional study by reviewing medical records of patients aged 1 month to 12 years incomplete. A 22-variable database was constructed and patients were classified according to baseline neurological level by PCPC (Pediatric Cerebral Performance Category) at admission and discharge. Used tool discrimination and calibration method, based on expected and obtained favorable prognoses. The favorable prognosis was defined in two classifications: a) primary: no change, 1-level decline in PCPC or improvement, between admission and discharge from PICU, and b) secondary: no change or improvement in PCPC between admission and discharge from PICU.

RESULTS: A total of 714 patients from two southern PICUs were included in a 18-month period, with 11.4% of deaths and 16.2% of patients with PCPC decline. The tool presented good calibration for both definitions, with area under the ROC curve of 0.91. Days on mechanical ventilation, shock, stroke, cardiopulmonary resuscitation, and seizures are independent factors associated with unfavorable neurologic outcome.

CONCLUSIONS: The prediction tool for favorable neurologic outcome demonstrated good calibration and discrimination with both definitions, able to predict the neurological prognosis of PICU patients.

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PAEDIATRIC TRAUMA BIG SCORE: ASSESSING SEVERITY OF INJURY AND PREDICTING MORTALITY IN CHILDREN PRESENTING WITH TRAUMATIC BRAIN INJURY (TBI) TO THE PICU

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AIMS & OBJECTIVES: To determine the association of BIG score with mortality in Paediatric traumatic brain injury caused by blunt trauma.

METHODS: This was a retrospective cohort performed in a tertiary care hospital, during 2015 to 2018. Participants were all children aged 1 month to 18 years, admitted in PICU with a traumatic brain injury within 24 hours of blunt trauma. Charts were reviewed for in-hospital mortality, components of the BIG score upon arrival to the emergency department, pre-hospital intubation, crystalloids, presence of hypotension, head injury, and length of PICU stay.

RESULTS: Total 94 children were enrolled with median population age of 9 years, 80% were male. The most frequent injury mechanisms were falls from height (35%), followed by motor vehicle incidents(21%). 76 (96%) patients with a BIG score of <19 survived, while only 3(4%) patients died. Likewise, approximately half of the children with BIG score >19 survived and half expired. A BIG score of ≥ 19 demonstrated a sensitivity of 0.70 (95% CI: 0.34−0.93) and a specificity of 0.90(95% CI: 0.82-0.95) to identify mortality. The AUC for continuous & dichotomized BIG score ROC