Compliance of "Sepsis Care Bundle" according the Surviving Sepsis Campaign guidelines in pediatric septic patients admitted to hospitals in Latin America

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Results: There is direct correlation between increased ICP and ONSD. ONSD measurement with a cut off value > 4.5 mm was associated with an increased ICP in IH. Further studies are needed to confirm this observation.

For dopamine and 56.9 ± 58.2 months for epinephrine (p=0.14). There were 17

Baseline characteristics were similar between groups. Mean age (±SD) 39.6 ± 46.3

Table: Compliance of “Sepsis Care Bundle” According to Surviving Sepsis Campaign Guidelines in Pediatric Sepsis Patients Admitted to Hospitals in Latin America

<table>
<thead>
<tr>
<th></th>
<th>Survivors (n=5)</th>
<th>Non Survivors (n=6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial presentation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-specific illness</td>
<td>5/8 (62%)</td>
<td>3/8 (38%)</td>
</tr>
<tr>
<td>Clinical sepsicaemia</td>
<td>0/2</td>
<td>2/2 (100%)</td>
</tr>
<tr>
<td>Clinical coagulopathy</td>
<td>0/3</td>
<td>3/3 (100%)</td>
</tr>
<tr>
<td><strong>HSV 1</strong></td>
<td>2 (40%)</td>
<td>4 (66%)</td>
</tr>
<tr>
<td><strong>HSV 2</strong></td>
<td>3 (60%)</td>
<td>2 (33%)</td>
</tr>
</tbody>
</table>

Conclusions: Treatment with CVVH in systemic neonatal HSV infection remains unclear in the absence of expert consensus. A pediatric RRT database similar to ELSO registry would be a useful reference guiding clinicians and assisting with counselling families.

Compliance of “Sepsis Care Bundle” According to Surviving Sepsis Campaign Guidelines in Pediatric Sepsis Patients Admitted to Hospitals in Latin America

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Background and aims: The Surviving Sepsis Campaign (SSC) group has introduced the ‘sepsis care bundle’ into clinical practice with the goal of reducing mortality. Despite recent updating guidelines of SSC, data on the pediatric sepsis care bundle are scarce. Aims: To report a ‘post hoc’ analysis of the rate of compliance of severe sepsis care bundle in pediatrics hospitals in Latin America. Methods: A prospective study that evaluated children admitted to 21 PICUs in five countries (June-September/2011). The study was approved by the Committee of Ethics on Research, and informed consent was obtained. Patients with complete data in sepsis care bundle were included. Results: Among the 1,090 patients of this study, the prevalence of severe sepsis was 25.9%, and 263 patients (95% of severe sepsis group) were included. The observed compliance to interventions: 98.8% fluid/colliod resuscitation, 60.8% serum lactate measured, 85.9% blood culture prior antibiotic administration, 44.5% broad-spectrum antibiotics until 1 hour for ICU admissions, 42.6% achieve central venous oxygen saturation, 74.5% achieve central venous pressure, 88.6% glucose control maintained, and 30% of invasive arterial pressure monitoring. Conclusions: Our study shows that the compliance of pediatric sepsis care bundle varied according to the intervention. Efforts and future studies to improve hospital mortality from severe sepsis could focus on increasing compliance with these evidence based interventions.

Randomized Double-Blind Trial of Dopamine or Epinephrine as First-Line Vasopressor Drugs in Fluid Refractory Pediatric Septic Shock

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Background and aims: Guidelines for severe sepsis and septic shock treatment in children suggest that dopamine or epinephrine can be used as first line drugs. This recommendation is, however, still a matter of debate. Aims: Our goal was to compare the effects of dopamine or epinephrine regarding the need for other vasoactive drugs, nosocomial infection rates and 28-day mortality. Methods: IRB approved the study, written informed consent was obtained. Between 02/09-07/13 all children with fluid refractory septic shock were considered eligible. After applying exclusion criteria, patients were randomly assigned to receive either dopamine (drug A=5-7.5-10 mcg/Kg/min) or epinephrine (drug B=0-1-0.2-0.3 mcg/Kg/min). Hemodynamic variables were recorded. Treatment failure was considered if predefined stabilization criteria were not achieved after maximum dose. Nosocomial infection was defined according to CDC recommendations. All baseline characteristics and results were submitted to complete statistical analysis considering p values <0.05 to be statistically significant. Results: One-hundred-twenty children (58% male) were enrolled (63 for dopamine and 57 for epinephrine). Baseline characteristics were similar between groups. Mean age (±SD) 39.6±46.3 for dopamine and 56.9±58.2 months for epinephrine (p=0.14). There were 17 deaths (14.2%), 13 (20.6%) in the dopamine group and 4 (7%) in the epinephrine group (p=0.033). The use of dopamine was statistically associated with death (OR=6.5; 95% CI=1.1-37.8, p=0.037) and nosocomial infection (OR=67.7; 95% CI=5.0-910.8; p=0.001). Death occurred in a significantly shorter period of time for those who received dopamine (p = 0.047). Conclusions: The use of dopamine as first line vasoactive drug for pediatric septic shock may be associated with higher nosocomial infection and mortality rates.

Non-Invasive Detection of Increased Intracranial Pressure (ONSD) in Pseudotumor Cerebri

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Background and aims: Idiopathic Increased Intracranial Hypertension (IIH), called Pseudotumor cerebri, is a common cause of progressive increased intracranial pressure (ICP) in adolescence. Optic nerve atrophy and blindness may occur if left untreated. The orbital portion of the optic nerve is surrounded by a sheath comprised of an outer layer (Dura) and an inner sheath (arachnoid) where CSF circulates. Increased ICP augments CSF pressure enlarging the optic nerve sheath diameter (ONSD). ONSD can be assessed by ultrasonography (US) with a normal size of 4–4.5 mm at adolescence. Aims: To assess if US could be a noninvasive tool to detect increased ICP in the IIH population. Methods: Prospective, blind study of patients 12–18 years of age with suspected IIH. ONSD was measured with a 13–6 MHz linear array probe prior to performing a sedated (fentanyl/propranolol), recumbent, spinal tap where the opening pressure was recorded. A cut of < 20 cmH2O was considered normal. 3 ONSD measurements were performed in each eye and averaged. IRB approved study with signed informed consent. Results: 10 patients completed the study, eight had enlarged ONSD and elevated ICP, two had normal ONSD and ICP (p = 0.01).

R. ONSD mm 3.8 3.9 5.3 6.4 5.3 6.1 4.7 5.1 4.5 8.2
L. ONSD mm 3.9 3.9 5.6 7.6 4.7 6.7 4.9 5.3 4.6 7.2
CSF pressure cmH2O 14 16 31 30 25 30 24 30 22 49

Conclusions: There is direct correlation between increased ICP and ONSD. ONSD measurement with a cut off value > 4.5 mm was associated with an increased ICP in IIH. Further studies are needed to confirm this observation.