IMPLEMENTING FLEXIBLE BRONCHOSCOPY IN A PICU

Low biochemical nutritional indices predict clinical outcomes in children undergoing cardiac surgery

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Methods
This is a prospective study performed in a 10-bed PICU of a tertiary care children’s hospital. All patients and children with home ventilation. It was our goal to implement this technique as a routine diagnostic and intervention tool with changed antimicrobial treatment in 17 of 29 cases (59%).

Results
151 procedures were performed in 96 patients. Indications were: Treatment of atelectasis and obstruction (78 of 151 procedures), with improvement in ventilation parameters in 61 of 78 procedures (78%); search for airways anatomical pathologies (45 of 151 procedures), with pathological findings in 26 of 45 procedures (58%); Pneumonia and undetermined lung disease in which cases BAL was performed (29 of 151 procedures), with changed antimicrobial treatment in 17 of 29 cases (59%). We didn’t observe any procedure-related mortality or serious complications.

Conclusions
Flexible bronchoscopy is a very safe and useful procedure in critical ill infants and children with a variety of diseases, and significantly contributes to their management. In our opinion bronchoscopy should be a routine technique in paediatric intensive care units.

Poster symposium

PS-137
LOW BIOCHEMICAL NUTRITIONAL INDICES PREDICT CLINICAL OUTCOMES IN CHILDREN UNDERGOING CARDIAC SURGERY

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Aim To determine whether biochemical nutritional indices predict clinical outcomes in children undergoing cardiac surgery.

Methods Retrospective single centre study between July 2012 and June 2013. Biochemical nutritional indices included serum albumin and total lymphocyte count (TLC) which was used to calculate Onodera’s prognostic nutritional index (PNI) [10 x serum albumin (g/dL) + 0.005 x TLC (/mL)]. Severity of illness assessed using Paediatric Risk of Mortality (PRISM) III score. Surgery categorised using the risk adjusted classification for congenital heart surgery (RACHS-1) score. Outcomes included hospital mortality, paediatric intensive care unit (PICU) length of stay (LOS) and duration of mechanical ventilation (MV).

Results Total of 31 patients identified. Median age was 2.0 (0.7–41.0) months. Median PRISM III score was 8.0 (5.0–13.0). 14 (45%) underwent RACHS-1 category 2 surgery and 6 (20%) had ventricular septal defects. Median albumin and TLC were 3.2 (2.6–4.2) g/dL and 4280 (2810–5100)/μL respectively. Median PNI score was 52.7 (41.2–69.7). There was no hospital mortality. Median PICU LOS was 5.0 (3.0–8.0) days. Hypoalbuminaemia ≤3.0 g/dL associated with longer median PICU LOS (7.0 vs. 4.0 days, p = 0.016) and duration of MV (156 vs. 33 h, p = 0.007). PNI ≤ 58 associated with longer median PICU LOS (6.0 vs. 3.0 days, p = 0.041). Adjusting for age and RACHS-1 score, for every 1 g/dL drop in albumin, PICU LOS increased by 0.5 days (p = 0.006).

Conclusions
Hypoalbuminaemia and PNI ≤ 58 were associated with adverse postoperative outcomes. Future studies to study effect of perioperative aggressive nutrition care on biochemical indices and clinical outcomes.

PS-137a
A BRIEF INTERVENTION TO IMPROVE PARENT POST-TRAUMATIC STRESS SYMPTOMS FOLLOWING PAEDIATRIC CRITICAL ILLNESS: A PILOT RANDOMISED CONTROLLED TRIAL

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Background and aims
Admission to paediatric intensive care (PIC) has been linked to subsequent post-traumatic stress symptoms (PTSS) in parents. This study aimed to obtain initial estimates regarding the effect of a brief intervention on parent PTSS and explore the mediating effect of baseline parental stress.

Methods
Parents of children aged 4–16 years old were randomised to intervention versus treatment as usual (TAU). The intervention was delivered within six weeks of discharge from hospital and included a psycho-educational booklet and telephone call. Parents’ baseline stress was measured using the Parental Stressor Scale: PICU. Parents were followed-up a median of 5 months post discharge from PICU and measures of PTSS were obtained using the Impact of Events Scale.

Conclusions
A brief intervention can improve parent post-traumatic stress symptoms following paediatric critical illness.
Intensive Care II

PS-138
FLUID OVERLOAD IS ASSOCIATED WITH MORTALITY IN PAEDIATRIC ACUTE RESPIRATORY DISTRESS SYNDROME (ARDS) ONLY IN THE SETTING OF ACUTE KIDNEY INJURY (AKI)

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Background Cumulative fluid balance on day 3 is associated with mortality in paediatric ARDS (Valentine 2012, Willson 2013). Whether this association is modified by AKI is unknown.

Aim To test the effect of AKI on the association between fluid balance and mortality in ARDS.

Abstract PS-138 Table 1 Patient characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>No AKI (n = 153)</th>
<th>AKI (n = 56)</th>
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</thead>
<tbody>
<tr>
<td>Age, Months</td>
<td>86 ± 73</td>
<td>86 ± 74</td>
</tr>
<tr>
<td>Male (%)</td>
<td>86(56)</td>
<td>31(55)</td>
</tr>
<tr>
<td>P/F Ratio</td>
<td>174 ± 106</td>
<td>156 ± 103</td>
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<tr>
<td>PRISM 3+</td>
<td>13 ± 8</td>
<td>21 ± 11</td>
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<tr>
<td>Day 3 Fluid Balance (100 ml/kg)</td>
<td>0.61 ± 0.97</td>
<td>1.1 ± 1.59</td>
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<tr>
<td>Mortality (%)</td>
<td>12.7(8)</td>
<td>14.25</td>
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</tbody>
</table>

**p < 0.01; all other p-values > 0.05.