

the epidemiology and outcome of immunocompromised patients (IMP) who required CRRT.

**METHODS:** Retrospective, observational and descriptive study. Medical records of patients admitted to the PICU of an academic children's hospital in Argentina from January 2012 to December 2018 were reviewed. Patients requiring CRRT were included. Patients who needed intermittent dialysis techniques were excluded.

**RESULTS:** Of 1506 patients were admitted, 6.7% required CRRT (n: 102), the median age was 66 months (Q12-144), median days of hospitalization was 16 days (Q7-29). The most frequent diagnoses were 34% solid organ transplantation followed by 27% hematopoietic progenitor cell transplantation (HPCT). The prevalent secondary diagnoses were septic shock 44% and acute respiratory distress syndrome 20%. Median CRRT duration was 5 days (Q 3-9). The most commonly used dialytic mode was Continuous Venovenous Hemodialysis in 87% of patients. Overall survival was 25%.

**CONCLUSIONS:** In our study mortality in IMP with AKI remains high, especially in those undergoing HPTC. CRRT is still a good therapeutic approach for its treatment. Early recognition of the patients who need nephroprotection strategies is crucial to reduce AKI incidence.

## P0104 / #713

### CLINICAL EPIDEMIOLOGICAL CHARACTERIZATION OF PEDIATRIC ONCOLOGIC PATIENTS ENTERED IN A UNIT OF PEDIATRIC INTENSIVE CARE OF A REFERENCE HOSPITAL IN URUGUAY

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**AIMS & OBJECTIVES:** Cancer remains a major death cause in children. The objective is to describe and analyze the characteristics and evolution of a pediatric oncological patients admitted to the Pediatric Intensive Care Unit (PICU) of the Pereira Rossell Hospital Center (CHPR).

**METHODS:** This is a retrospective and observational study by reviewing the medical records of the hematologic cancer patients who entered the PICU from January 1, 2017 to December 31, 2018.

**RESULTS:** A total of 52 pediatric oncology patients were admitted to the PICU. The median duration of PICU stay was 5 days and the median age was 7 years. Postoperative care and respiratory failure were the most frequent indication for PICU admission. The Tumors of the Central Nervous System and Acute Lymphoblastic Leukemia (ALL) were the most frequent. Sepsis and Septic Shock were identified in 30%. The registered mortality was 25% with greater days of mechanical ventilatory assistance, with more days of inotropic use and longer duration of hospitalization. The children with Hematopoietic Stem Cell Transplant and compared with the others, more days with inotropics and more use of renal replacement therapy were evident.

**CONCLUSIONS:** The prognosis of patients admitted to the PICU in developing countries is still behind those in

developed ones. Patients who were admitted due to emerging medical causes presented with higher mortality than the group of children admitted to the postoperative period. The children with respiratory failure and Sepsis requires inotropic support, oxygen therapy and mechanical ventilation and is significantly associated with poor outcomes, especially in patients with hematological malignancies.

## P0105 / #748

### TRENDS OF RED BLOOD CELL (RBC) TRANSFUSION IN CRITICALLY ILL CHILDREN: A COMPARISON OF LIBERAL AND RESTRICTIVE STRATEGY

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**AIMS & OBJECTIVES:** Describe the administration of red blood cell (RBC) transfusions of critically ill children

**METHODS:** Retrospective study. We analysed medical records (2015-2019) of critically ill children, 1 month-18 years, who received RBC transfusion. Exclusion criteria were hemato-oncology, chronic, and congenital diseases. The transfusion strategies was classified into liberal (cut-off Hb <9.5g/dL) and restrictive (cut-off Hb <7 g/dL). Research outcomes are: prevalence, increase in Hb levels, and mortality rate for each group

**RESULTS:** A total of 350 critically ill children got RBC transfusion; 165 subjects were excluded, remaining 185 subjects. The most common diagnoses were pneumonia (45.4%) and post-surgery (23.8%). The mean age was 3.8 years. Sixty-five percent subjects received liberal strategy transfusion. Initial and final Hb levels in the liberal group were 8.0 (95% CI; SD 0.7) and 9.5g/dL (95% CI; 1.4), respectively; whereas in the restrictive group were 6.0g/dL (95% CI, SD 0.8) and 8.1 g/dL (95% CI; SD 1.5), respectively. Delta Hb were slightly higher in restrictive than liberal group (2.0 [SD 1.6] vs 1.5 [SD 1.3] g/dL [p> 0.05]), but no differences in the final Hb levels. The mortality rate in the liberal group was 49.2% while in the restrictive group was 61.5% (p= 0.72).

**CONCLUSIONS:** A cut-off Hb <9.5g/dL is commonly applied to initiate transfusion. The increase of Hb level was higher in the restrictive group, however the final level did not show differences. This illustrates, despite using different strategies, the goals of final Hb is similar between 2 strategies. Further research is needed to determine clinical outcomes in difference transfusion strategies and Hb target.

## P0106 / #768

### NUTRITIONAL STATUS AND GROWTH DEFICIT IN CHILDREN WITH COMPLEX CHRONIC CONDITIONS

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**AIMS & OBJECTIVES:** To determine the prevalence of inadequate nutritional status and growth deficit in children with complex chronic conditions (CCC).

**METHODS:** A descriptive study with partial data from a 4-year retrospective cohort, where 1753 records were analyzed. Children aged 1 month to 18 years and a PICU of a university hospital. An assessment of nutritional status was determined on anthropometric measurements taken at admission and collected from medical records. The body mass index for age (BMI/A) z-score and height for age (H/A) were calculated and classified according to World Health Organization (WHO) methods as a reference standard. CCCs were selected according to a classification developed by Feudtner et al. (2014)

**RESULTS:** Children diagnosed with one CCC represent 49.8% of admissions. The prevalence of malnutrition was 19%. Patients with normal weight represented 55.6%, overweight were 6.2% and obese were 11.3%. Height deficit was observed in 18.2% of this population.

**CONCLUSIONS:** The proportion of inadequate weight (malnutrition, overweight and obesity) was high in this population. The growth deficit was expressively represented. These findings may help to better support for patients with CCC.

## P0107 / #769

### THE BURDEN OF ANAEMIA IN CHILDREN BEFORE AND AFTER SURGERY: IMPLICATIONS FOR PRACTICE AND RESEARCH?

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**AIMS & OBJECTIVES:** Pre-operative anaemia is a well-recognised risk factor for adverse outcomes in adults undergoing surgery, but there is very little data in children. The aim of this study was to describe the prevalence and patterns of anaemia in a cohort of children admitted to PICU post scoliosis surgery.

**METHODS:** Single centre retrospective study of patients admitted for elective scoliosis surgery (September 2016 - January 2018). Electronic databases and were searched to identify patients admitted for elective spinal surgery and their Hb levels. Data were analysed as two groups, male vs female, and as paired data for Hb on admission and at discharge, for the cohort. Anaemia was defined as mild, moderate or severe, per WHO guideline 2001.

**RESULTS:** 104 patients that underwent scoliosis surgery were included, 73 female and 31 male. Female patients were slightly older at the time of the surgery and had higher proportion of co-morbidities. Mean Hb on admission was 133 g/L. Eight patients (8%) were anaemic at admission. Mean blood loss at surgery was 1000 mls. Mean Hb at discharge was 98g/L; and 93 patients (89.5%) were anaemic at discharge. Mean Hb at discharge was lower in female patients compared to males. 10 patients (9.6%) required a red cell transfusion either intra or post-operatively. There was variable use of cell salvage.

Table 2, comparison of the admission and discharge haemoglobin for the whole cohort

	Admission N=104	Discharge N=104	Mean diff. 95% CI	p
Hb, g/l				
Mean (SD)	133.4 (12.8)	97.7 (12.7)	35.7 (32.6,	0.025
Median (IQR)	135.5 (127, 142)	96 (88, 105)	38.8)	
Presence of anaemia	Mild- 3 (3.8%) Moderate 5 (4.8%) Severe 0	Mild- 7 (6.7%) Moderate 82 (78%) Severe- 5 (4.8%)		<0.009

Anaemia in 5-14 years old defined as: Mild Hb 110-114 g/l, Moderate Hb 80-109 g/L, Severe Hb <79 g/L

Anaemia in 6-59 months old defined as: Mild Hb 100-109 g/L, Moderate Hb 70-99 g/L, Severe Hb <70 g/L

Table 1, comparison by gender, results expressed as mean (SD), median (IQR) or n (%)

	Male N=31,	Female N=73	Mean diff. (95%CI)	p
Age (years) Mean (SD)	12 (4)	13.4 (2.3)	-1.4 (-2.6, -0.19)	0.02
Co-morbidity <sup>a</sup> n(%)	8 (26%)	46 (63%)	37%	0.001
Ethnicity*	1- 28 (90%) 2- 1 (3.2%) 3- 1 (3.2%) 4- 0 5- 0 6- 1 (3.2%)	1- 49 (67%) 2- 3 (4.1%) 3- 3 (4.1%) 4- 1 (1.4%) 5- 1 (1.4%) 6- 16 (21.9%)		overall 0.29
Transfused red cells during admission, n (%)	3 (9.7%)	7 (9.6%)	0.1%	0.95
Hb admission (g/L) mean (SD)	134 (15.6)	133 (11.5)	0.9 (-4.6, 6.3)	0.75
Hb discharge (g/L) mean (SD)	102 (15.8)	94.6 (14.7)	7.5 (1.1, 13.8)	0.02
Blood loss (ml), mean (SD)	1041 (664)	857 (650)	184 (-120, 487)	0.23
Median (IQR)	934 (485, 1637)	739 (452, 1033)		
Cell salvage (ml), mean (SD)	367 (266)	298 (464)	70 (129, 269)	0.49
Median (IQR)	325 (164, 495)	193 (130, 346)		
<sup>a</sup> Anaemic at admission, n(%)	4 (12.9%)	5 (6.8%)	6.1%	0.57
<sup>a</sup> Anaemic at discharge, n(%)	25 (80.6%)	68 (93%)	12.4%	0.154

<sup>a</sup> Includes presence of 5 different categories of co-morbidity: CP, neuromuscular disorder, spinal (apart from scoliosis), chromosomal, cardiac, \*1- White, 2- Pakistani, 3- Black, 4 - Bangladeshi, 5 - Asian, 6-unknown <sup>a</sup>Anaemia defined per WHO 2001

**CONCLUSIONS:** There is a significant burden of anaemia at discharge post scoliosis surgery, with lower Hb in females. Research is required to better assess the medium to long-term effects of anaemia in children pre- and post-operatively.