O028 / #867

PERFORMANCE OF THE PEDIATRIC INDEX OF MORTALITY 2, FERRITIN, LACTATE, C-REACTIVE PROTEIN AND LEUKOCYTES AS PROGNOSTIC MARKERS IN PEDIATRIC SEPSIS

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AIMS & OBJECTIVES: To evaluate the prognostic performance of the Pediatric Index of Mortality 2 (PIM2), ferritin, lactate, C-reactive protein (CRP), and leukocytes, alone and in combination, in pediatric patients with sepsis admitted to the pediatric intensive care unit (PICU) in a middle-income country.

METHODS: A retrospective study was conducted in a PICU in Brazil. Patients aged 6 months to 18 years admitted with a diagnosis of sepsis were eligible for inclusion. Those with ferritin and C-reactive protein measured within 48 hours, and lactate and leukocytes within 24 hours of admission were included in the prognostic performance analysis.

RESULTS: Of 350 eligible patients with sepsis, 294 had undergone all measurements required for analysis and were included in the study. PIM2, ferritin, lactate, and CRP had good discriminatory power for mortality, with PIM2 and ferritin being superior to CRP. The cutoff values for PIM2 (> 14%), ferritin (> 135 ng/mL), lactate (> 1.7 mmol/L), and CRP (> 6.7 mg/mL) were associated with mortality. The combination of ferritin, lactate, and CRP had a positive predictive value of 43% for mortality, similar to that of PIM2 alone (38.6%). The combined use of the 3 biomarkers plus PIM2 increased the positive predictive value to 76% and accuracy to 0.945.

CONCLUSIONS: PIM2, ferritin, lactate, and CRP alone showed good prognostic performance for mortality in pediatric patients older than 6 months with sepsis. When combined, they were able to predict death in three-fourths of the patients with sepsis. Total leukocyte count was not useful as a prognostic marker.

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INFLAMATORY PHENOTYPE OF MULTIORGANIC FAILURE ASSOCIATED WITH SEPSIS IN BOLIVIAN CHILDRENS

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AIMS & OBJECTIVES: Septic Shock (SS) is one of the first causes of mortality in childrens, recent knowledge suggest each patient have an individual different response against pathogen, and consider existence of 4 Sepsis associated - Multiorganic Failure (MOF) phenotypes: Immunoparalisis asocciated (IP MOF), Thrombocitopenic associated (TA MOF), Secuential (SMOF), Macrophage Activated Syndrome (MAS). Early recognition of phenotype lead us perform better treatments; this study aims to describe sepsis associated MOF in Bolivian childrens.

METHODS: An multicentrical, prospective and longitudinal study was conducted, children between 1 month to 18 years with SS diagnosis. We include three pediatric intensive care units (La Paz, Tarija, Cochabamba), patients were randomly selected and data used confidentially an considerins ethical aspects. Inflamatory phenotypes were stablished usind clinical criteria suggested by Carcillo J. et al.

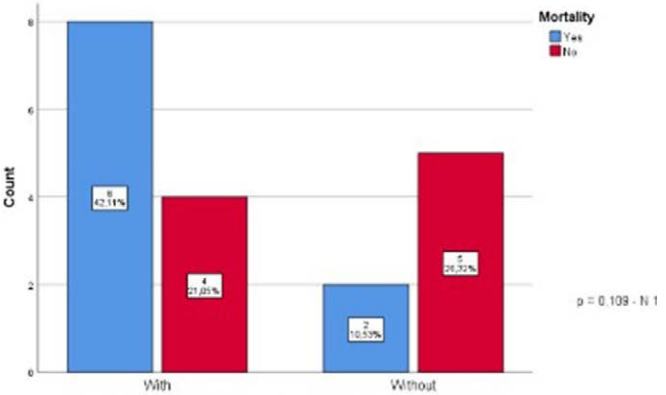
RESULTS: 37 patients were enrolled in the study, from 3 children hospital from Bolivia, Multiple organ failure were developed in 19 cases (51,4%) and mortality was obserbed in 15 septic patients (40%). Multiple organ failure cases with one or more inflammation phenotypes were observed in 19 cases, were more common IP MOF 7 cases (18,9%), TAF 9 (24,3%), SMOD 3 (8,1%) overlapping frequencies among phenotypes; mortality were lower in Non phenotype group ($p<0,109$) (Figure 1). In phenotype MOF group mortality were more frequent in IP MOF and TA MOF group (Table 1).

Table 1. Mortality association with MOF phenotype

		Mortality		
		Yes	No	Total
Phenotypes presentation	Without organic failure	5	13	18
	IP MOF	1	2	3
	TA MOF	2	1	3
	Organic Failure wihtout phenotype	2	5	7
	IP/TA MOF	2	0	2
	TA/S MOF	1	0	1
	TA/MAS	0	1	1
	IP/TA/S MOF	1	0	1
	All phenotypes	1	0	1
Total		15	22	37

IP MOF – IMMUNOPARALYSIS ASSOCIATED MULTIORGANIC FAILURE
TA MOF – THROMBOCITOPENIC ASSOCIATED MULTIORGANIC FAILURE
SMOF – SECUENTIAL MULTIORGANIC FAILURE
MAS – MACROPHAGUE ACTIVATION SYNDROME

N = 37 – p = 0.228



Organic Failure with and without inflamatory phenotype

CONCLUSIONS: Inflammatory phenotype presence is associated to mortality, but need to be confirmed in multicenter studies of pediatric multiple organ dysfunction syndrome.