

O242

Oral Session

New old antibiotics: safety and efficacy

RISK FACTORS FOR ACUTE KIDNEY INJURY IN PATIENTS TREATED WITH POLYMYXIN B ACCORDING TO RIFLE AND AKIN SCORES: A PROSPECTIVE COHORT STUDY

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Objectives: To evaluate risk factors for acute kidney injury (AKI) according to the modified RIFLE and AKIN scores in patients receiving intravenous polymyxin B (PMB).

Methods: We conducted a prospective cohort study from February to October of 2013 in two tertiary-care hospitals. Patients receiving polymyxin B for ≥ 48 h and aged ≥ 18 were enrolled and followed until the end of therapy. Exclusion criteria were dialysis or baseline creatinine clearance (CLcr) ≤ 10 ml/min in the beginning of PMB therapy. Potential risk factors for AKI were evaluated. Factors with p values ≤ 0.2 in bivariate analysis according to both modified RIFLE and AKIN scores were included in a Cox regression model.

Results: 193 patients were included. Mean age was 67.5 ± 15.1 years. Mean Clcr was 62.3 ± 36.9 . 93(48.2%) developed AKI according to RIFLE (43 -46.2% Risk; 24-25.8% Injury, 26-28% Failure) and 103(53.4%) according to AKIN score (52-50.5% stage 1, 21-20.4% stage 2, 30-29.1% stage 3). Results from bivariate analysis are presented on the table. Patients developed AKI in a median of 7 (3-10) and 6 (3-10) days using RIFLE and AKIN scores, respectively. PMB dose ≥ 150 mg/day was the only independent risk factor for AKI (HR 2.3, 95%CI 1.3–3.9; $p < 0.01$) in Cox regression model, adjusted for weight (HR 1.01, 95%CI 0.99-1.03; $p = 0.06$) and vasoactive drugs (HR 1.1, 95%CI 0.69-1.62, $p = 0.78$). Median time to AKI was 4 (2-7) and 7.5 (5-12) days for the patients receiving PMB \geq and ≤ 150 mg/day, respectively. Applying AKIN score PMB ≥ 150 mg/day (HR 3.4, 95%CI 1.8-6.5; $p < 0.01$), older age (HR 1.01, 1.0- 1.03; $p = 0.04$) and higher weight (HR 1.08, 95%CI 1.00- 1.03; $p < 0.01$) were independently associated with AKI. Median time to AKI was 3 (2-7) and 6.5 (4.5-10.5)days for patients receiving PMB \geq and ≤ 150 mg/day, respectively.

Conclusions: A higher number of patients were defined as having AKI using AKIN compared to RIFLE score. Time to AKI was shorter with AKIN score. Patients receiving ≥ 150 mg/day of PMB developed AKI most frequently and earlier with both scores. This effect was independent of the patient's weight, which was barely and significantly associated with AKI using RIFLE and AKIN scores, respectively.

	RIFLE Yes (93)	RIFLE No (100)	P	AKIN Yes(103)	AKIN No(90)	P
Age, years	67.6 \pm 15.1	64.6 \pm 16.0	0.18	67.9 \pm 15	64 \pm 16.1	0.09
Weight, kilograms(kg)	68.1 (58-77)	62.9 (53-72)	0.04	70(58-78)	62.2(53-70)	<0.01
Charlson	2(1-4)	2 (1-4)	0.70	2(1-4)	2(1-5)	0.56
Other Nephrotoxic Drugs	61(65.59)	69(69)	0.61	69(66.99)	60(66.67)	0.96
Use of Vasoactive Drugs	41 (44.09)	33 (33)	0.11	42(40.78)	29 (32.22)	0.22
Intensive Care Unit Admission	57 (61.29)	54 (54)	0.31	63 (61.17)	48 (53.33)	0.27
Baseline creatinine clearance	58 (34-77)	51 (33-92)	0.89	52(32-76)	56(35-96)	0.25
Use of Nephrotoxic Contrast	10(1.08)	9(8.9)	0.68	11(10.68)	8 (8.89)	0.68
Polymyxin B dose ≥ 150 mg/day	77 (82.80)	64 (64)	<0.01	83 (80.58)	58 (64.44)	0.01