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Poster Session VI

VRE: epidemiology and control

Vancomycin-resistant *Enterococcus faecium* colonisation in paediatrics

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Aim: The aim of this study was to determine risk factors associated with VRE colonization in hospitalized children.

Material and Method: We retrospectively analyzed the VRE surveillance data of pediatric hospital from 2010 to the end of 2013.

Results: During the four-year period, a total of 109 patients found to have VRE colonization. VRE detection method was culture in 86 (78.9%) and PCR in 23 (21.1%) of them. All of the isolates were identified as *Enterococcus faecium* and with Van A phenotype. Of patients, 46 (42.2%) of them were female. Median age of the patients was 1 (0-204) month. Control group was consisting of 109 patients scanned for VRE colonization but found negative. The median duration of VRE colonization after hospitalization was 10 (1-185) days. Contact precautions discontinued for 37 (34%) patients from whom three consecutive negative rectal cultures obtained at weekly intervals at a median time of 51 (7-395) days. Seventy nine (76%) of patients readmitted to hospital with a median time of 7 (1-120) days and 82.3% of them were found positive for VRE colonization. VRE infection rate was 3/109 (2.8%) among all patients. Risk factors associated with colonization with VRE were entubation, mechanical ventilation, transfusion, transfers between units, previous use of cephalosporins and glycopeptides.

Conclusion: VRE colonization can persist for a long duration. Risk factors should be managed more cautiously to avoid transmission of VRE.

Risk factors	Cases (n=109)	Controls (n=109)	p	Multiple analysis OR(95%CI) p
Age (median)	1 (0-204)	.00 (0-204)	0.481	
Female gender	46 (42.2)	48 (44)	0.891	
Transfer from another institution	18 (16.5)	13 (11.9)	0.438	
Malignancy	12 (11)	4 (3.7)	0.066	
Respiratory failure	19 (17.4)	10 (9.2)	0.109	
Immune suppression	11 (10.1)	4 (3.7)	0.106	
Transfusion	25 (22.9)	9 (8.3)	0.005	3.091 (1.328-7.194) 0.009
Use of H2 receptor antagonist	8 (7.3)	6 (5.5)	0.783	
Total parenteral nutrition	24 (22)	33 (30.3)	0.217	
Use of steroids	2 (1.8)	5 (4.6)	0.445	
Renal failure	2 (1.8)	2(1.8)	1.000	
Surgery	1 (0.9)	2(1.8)	1.000	
Invasive procedures				
Intubation	20 (18.3)	9 (8.3)	0.045	
Mechanical ventilation	20 (18.3)	9 (8.3)	0.045	
Thorax tube	4 (3.7)	1(0.9)	0.369	
peripheral venous catheter	88 (80.7)	81 (74.3)	0.330	
Central venous catheter	9 (8.3)	2 (1.8)	0.059	
Port catheters	5 (4.6)	2 (1.8)	0.445	
Orogastric tube drainage	27 (24.8)	43 (39.4)	0.029	0.492 (0.276-0.906) 0.023
Nasogastric tube drainage	32 (29.4)	39 (35.8)	0.386	
Previous antibiotic use				
Aminoglycoside	30 (27.5)	22 (20.2)	0.266	
Beta lactams	31 (28.4)	25(22.9)	0.438	
Glycopeptides	35 (32.1)	17 (15.6)	0.007	
Carbapenems	25 (22.9)	14(12.8)	0.076	
Quinolones	10 (9.2)	10 (9.2)	1.000	
Cephalosporins	24 (22)	7 (6.4)	0.002	3.531 (1.420-8.776) 0.007