Methods: A retrospective drug utilization evaluation was performed for pediatric patients who received intravenous vancomycin from 1 October 2007 to 31 March 2010. Dosing regimen was 40 mg/kg of body weight. All patients who received vancomycin for more than 72 hours had at least once trough serum concentration documented and were included in the study. Trough levels were obtained on steady state, 30 minutes before administration. Vancomycin concentrations were measured by an immunoassay procedure.

Results: A total of 138 samples were collected from 30 patients, aged 3 months to 16 years. Mean trough concentration was 12.9mcg/ml (median: 10.9, range: 0.2 - 46.7). Trough levels were below minimum suggested level of 10mcg/ml in 60 cases (43.5%) and above the upper limit of 15mcg/ml in 42 cases (30.4%). Fourteen of 42 cases (33.3%) with high vancomycin levels were patients with known renal failure and/or under renal replacement, whereas renal failure was documented only in 7 cases (11.9%) with suboptimal levels. Only 26% of serum samples (36 of 138) were in the therapeutic range.

Conclusions: Our data suggest only a fourth of the patients had serum levels in therapeutic range and almost half of this population had serum levels below the normal range. The dosing schedule of 40mg/kg/day in children is unlikely to achieve the recommended pharmacodynamic target. Alternative dosing such as 60mg/kg/day or continuous infusion should be considered in order to optimize the therapeutic effect.

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EVALUATION OF THE PREVALENCE AND RISK FACTORS FOR COLONIZATION BY VANCOMYCIN-RESISTANT ENTEROCOCCUS AMONG PEDIATRIC ICU PATIENTS ON ADMISSION

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Background: Our institution experienced an increase in the frequency of vancomycin-resistant enterococci (VRE) clinical isolates. Surveillance cultures upon hospital admission for patients at high risk is recommended. We sought to measure the prevalence and risk factors of VRE carriage among

medical new patients in a Pediatric Intensive Care Unit in a university Children's Hospital.

Method: We recorded the positive VRE samples from new patients entering the PICU from 10/10/2008 - 15/04/2010. Cases had positive VRE clinical cultures (perianal/stool samples) within 48 hours of hospital admission.

Results: VRE carriage was 9,33% on admission (39 of 418 of new patients). 53,84% of the carriages had a recent previous hospitalization (33,33% of them being oncologic patients). 51,28 % of the cases had previous recorded antibiotic treatment. 46,16 % of the patients had no previous admission (33,33% of them being trauma patients). 3/39 patients developed sepsis with positive blood culture of *E. faecalis* (one), *E. faecium* (two). 3/39 of the carriages had abdominal infection with positive pus cultures of *E. faecium*.

Conclusions: Our study demonstrates that recent previous hospitalization is not a significant predictor for identifying carriers on admission but previous antibiotic treatment and neoplastic disease are. The wide use of antibiotics among paediatric patients may be the answer. Early identification and isolation of VRE carriers among critically ill patients should supplement application of infectious control measures in an attempt to reduce nosocomial spread and burden.

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CLINICAL OUTCOME OF NEONATAL CONS-SEPSIS WITH A VANCOMYCIN-SPARING REGIMEN: FAVOURABLE RESULTS WITH CEFAZOLIN AS FIRST CHOICE AGENT

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Background and aims: The typical empiric antimicrobial treatment protocol for neonatal coagulase-negative staphylococci (CONS) sepsis includes vancomycin. However, the protocol in our NICU prescribes cefazolin to cover CONS. The susceptibility of CONS blood isolates to cefazolin and clinical outcome of infants with CONS sepsis was studied during 2000-2006.