nation of gene cassettes (dfrA15- aadA1) was found in one of the strains studied. The complete sequences of these gene cassettes have been submitted to the GenBank and Accession Numbers have been assigned.

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66.010

Risk Factors for Nephrotoxicity associated with Continuous Vancomycin Infusion in Outpatient Parenteral Antibiotic Therapy

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Background: Continuous vancomycin infusion is increasingly used for outpatient management of infections, but the relationship between vancomycin and nephrotoxicity is controversial. We investigated the risk factors associated with nephrotoxicity in this setting.

Methods: A retrospective cohort study of patients receiving continuous vancomycin infusion as Outpatient Parenteral Antibiotic Therapy (OPAT) was performed. The likelihood of developing nephrotoxicity ($\geq$50% increase in serum creatinine from baseline) was evaluated in relation to demographic variables, underlying co-morbidities, infectious disease diagnoses, concomitant drug exposures and vancomycin concentration. Logistic regression was used to determine the association of various variables. Classification and regression tree analysis was used to determine the most significant breakpoint for continuous variables.

Results: We examined 102 adult patients between January 2004 and June 2007. The mean $\pm$ SD age, baseline serum creatinine and steady state vancomycin concentration were 48.2 $\pm$ 17.6 years, 78.0 $\pm$ 32.5 μmol/L and 15.5 $\pm$ 10.8 mg/L, respectively. The majority of the patients (66.7%) were treated for bone and joint infection. The cumulative incidence of nephrotoxicity was 15.7%. Nephrotoxicity was found to be associated with hypertension [odds ratio (OR) 5.302 (95% confidence interval {CI}1.159—24.246), $p = 0.031$], exposure to aminoglycosides [OR 6.594 (95% CI 1.026—42.385), $p = 0.047$], loop diuretics [OR 8.123 (95% CI 1.449—45.528), $p = 0.017$], and steady state vancomycin concentration $\geq$ 28 mg/L [OR 21.236 (95% CI 2.687—167.857), $p = 0.004$].

Conclusion: We have identified independent risk factors for nephrotoxicity in patients receiving continuous infusion vancomycin in OPAT. A serum steady state vancomycin concentration $\geq$ 28 mg/L markedly increases this risk.

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Comparative Study of Piperacillin/Tazobactam and Cefepime in Cancer Patients with Febrile Neutropenia

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Background: To compare the efficacy and safety of piperacillin/tazobactam with cefepime as an empirical monotherapy for adult cancer patients with febrile neutropenia. Method: A prospective, randomized, open-labelled, comparative trial was performed. If clinically preferable, the test article may be changed to oral ciprofloxacin at 72 hours. Clinical and microbiological responses were determined at 72 hours and at the end of therapy.

Results: A total of 89 cases were enrolled. 48 patients received piperacillin/tazobactam (PT group) and 41 patients received cefepime (CA group). Demographic and clinical characteristics were similar in two groups ($p > 0.05$). Clinical success rate at 72 hours in PT group (91.7%) was similar to that in CA group (85.4%) ($p = 0.31$). At the end of therapy, clinical success rate in PT group (91.7%) was also similar to that in CA group (100%) ($p = 0.15$). Adverse events including liver dysfunction (21.3%) and renal dysfunction (2.2%) were similar in two groups ($p = 0.87$).

Conclusion: piperacillin/tazobactam monotherapy was as effective and safe as the cefepime as an empirical treatment for cancer patients with febrile neutropenia.

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Bioprospecting for Antimicrobial Peptides

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Cationic antimicrobial peptides (AMPs) are important mediators in the primary host defense system against pathogenic microorganisms and are widely distributed in nature. The occurrence and characterization of low-molecular-mass AMPs from a wide variety of organisms have been accumulating at a rapid rate because of their biochemical diversity and broad specificity against bacteria or fungi and even some being anti-viral or possessing wound-healing effects. This has biopharmaceutical applications especially in view of the increased bacterial resistance to antibiotics in the clinical setting over the past decade. There is a growing need to discover and introduce new drugs, and AMPs provide new promising candidates as new antibiotics. The objective of this study has been to isolate novel peptides from native microbial and plant sources including fermented extracts. The antimicrobial properties of these extracts were initially tested using Escherichia coli, Staphylococcus aureus and Bacillus subtilis. This paper shows the initial results of the inhibition obtained on these microorganisms using plant and fermented extracts. The extracts were fractionated using cation exchange chromatography and antimicrobial tests were conducted with the fractions obtained. High pressure liquid chromatography was attempted with one of the extracts and some preliminary results were also obtained.