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Session: Bacterial Infections
Date: Friday, June 15, 2012
Time: 12:45-14:15
Room: Poster & Exhibition Area

Clostridium difficile in 7 European countries and North America: Fidaxomicin vs vancomycin therapy

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Background: Clostridium difficile infection (CDI) is the primary cause of antibiotic-associated diarrhoea. This phase 3 randomised, controlled trial was designed to compare efficacy and safety of fidaxomicin with vancomycin in patients with confirmed CDI in Europe (E) and North America (NA).

Methods: Eligible patients were adults with acute, toxin-positive CDI. Patients received oral fidaxomicin (200 mg twice daily) or oral vancomycin (125 mg 4 times daily) for 10 days. The primary endpoint was clinical cure (resolution of diarrhoea and no further need for CDI therapy; noninferiority margin -10%). Secondary endpoints were CDI recurrence within 4 weeks after treatment and sustained response (clinical cure with no recurrence). Analysis was done in the modified intention-to-treat and per protocol populations.

Results: The mITT population included 509 CDI patients from 7 European countries (UK-53, Belgium-42, Germany-37, Italy-27, France-19, Sweden-11, Spain-9), the US (150) and Canada (161). CDI patients tended to be older in E (median age 67 yrs) than in NA (61 yrs; p<.05), were more likely to receive concomitant antibiotics for other infections in E (35%) than in NA (27%; p<.05), were more often treated as inpatients (84% in E vs 58% in NA; p<.05). Fidaxomicin was non-inferior to vancomycin for clinical cure (mITT: 87.7% vs 86.8%; difference .9, lower 97.5% CL, -4.9) and superior to vancomycin for recurrence (12.7% vs 26.9%, p<.001) and sustained response (76.6% vs 63.4%, p=.001). In NA, 46% of isolates belonged to the BI group (also known as NAP1 and 027), followed by Y (10%), G (7%), and J (4%). In Europe, the most prevalent strains were Y (16%), J (15%), BI (10%), G (8%), and BK (7%). Susceptibilities were similar in E and NA to fidaxomicin (MIC90 = 0.25 μg/mL), vancomycin (MIC90 = 0.5 μg/mL), and metronidazole (MIC90 = 1 μg/mL).

Conclusion: Initial response to treatment was similar for fidaxomicin and vancomycin, but the incidence of recurrence was significantly lower in fidaxomicin-treated subjects. Outcomes of treatment were similar in Europe and North America although small differences in patient characteristics and responses were noted.

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Carriage of healthcare-associated methicillin-resistant *Staphylococcus aureus* and empiric treatment for skin and soft tissue infections

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Background: Previous skin carriage of healthcare-associated methicillin-resistant *Staphylococcus aureus* (HA-MRSA) leads frequently to empiric MRSA coverage for the antibiotic treatment of skin and soft tissue infections.

Methods: Retrospective cohort study between January 1996 and -June 2010 including adult orthopedic patients hospitalized at Geneva University Hospitals (MRSA prevalence; 30%).

Results: A total of 378 skin and soft tissue infections in 346 patients were retrieved. Among all episodes, 102 revealed a positive current MRSA status (during 2 weeks preceding infection; 102/378; 27%) and 70 (19%) were MRSA carriers in the past. The sensitivity, specificity, positive and negative predictive values of current MRSA skin carriage to predict abscesses due to MRSA were 0.68, 0.77, 0.19, and 0.97, respectively. Fifty-four current MRSA carriers (54/102, 53%) and 30 past carriers (43%) were successfully treated with a non-MRSA antibiotic agent. In multivariate Cox regression analysis, anti-MRSA antibiotic coverage (hazard ratio 1.2, 95% CI 0.5-2.8) and duration of antibiotic therapy (HR 1.0, 95% CI 0.96-1.02) did not influence treatment failure among patients with positive MRSA carriage, in contrast to presence of immune suppression (HR 7.8, 95% CI 1.8-34.1).

Conclusion: Current or past HA-MRSA skin carriage poorly predicts the need for anti-MRSA coverage for the antibiotic treatment of skin and soft tissue infections in hospitalized orthopaedic patients.

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Characterisation, detection of Metallo β-lactamases and Amp C in *Pseudomonas aeruginosa* in a tertiary care hospital

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Background: *Pseudomonas aeruginosa* is a common nosocomial pathogen.It is a major cause of multidrug resistance infections in hospitalized patients. Antibiotic resistance and production of virulence factors increases the morbidity and mortality. This leads to rising costs of care resulting from prolonged hospital stay and the need for more expensive drugs.