P2496

Abstract (poster session)

Emergence of Clostridium difficile infection in tuberculosis patients due to a highly rifampicin-resistant clone, polymerase chain reaction ribotype 046 in Poland

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Objective. The objective was to characterize of C. difficile isolates associated with an outbreak of Clostridium difficile infection (CDI) in 250 bed Specialized Hospital of Lung Diseases and Tuberculosis in Poland. Methods. CDI was diagnosed by C. difficile TOX A/B test II and toxigenic culture on selective medium. For detection of tcdA, tcdB and binary toxin genes and deletion in tcdA gene, PCRs were conducted. Isolates of C. difficile were typed by the PCR-ribotyping. MICs were measured by the E-test, as recommended by the CLSI or EUCAST. Results. From September 2009 through December 2010, antibiotic associated diarrhoea was suspected in 23 symptomatic patients. Ten patients were diagnosed as a CDI, representing an incidence of CDI 15.9/10.000 patients admission at the SHLD. Five patients had active pulmonary tuberculosis. These patients were treated with isoniazid, rifampicin and pyrazinamide. Three patients developed CDI recurrence. Five patients died because of CDI. Of ten C. difficile isolates from stool samples, PCR-ribotyping could be classified into visually distinct 4 PCR-ribotypes: 046 (n=7), 001 (n=1), 002 (n=1), 017 (n=1). All strains belonged to Type 046 were highly resistant to clindamycin, erythromycin, moxifloxacin, and rifampicin. All strains were susceptible to metronidazole. Three strains were intermediate susceptible to vancomycin with MIC=1 mg/L according to EUCAST. Conclusion. Our findings suggested that (1) patients who are treated with antituberculosis agents (especially rifampicin) and who develop acute diarrhoea during or after therapy, should be evaluated for C. difficile infection, (2) prolonged treatment of rifampicin can lead to highly resistant to rifampicin of C. difficile strains, (3) the emergency multidrug resistant C. difficile type 046.
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