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Poster Session III
Clostridium difficile: epidemiology and outcomes

POINT-PREVALENCE OF CLOSTRIDIUM DIFFICILE INFECTIONS (CDI) IN GREEK HOSPITALS: A CROSS-SECTIONAL STUDY (C.DEFINE STUDY)

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Objectives The prevalence of CDI is driven by the selection pressure of antimicrobial consumption but the epidemiology in hospitals within Greece, where antimicrobial use is high, remains unknown. The current study was undertaken to determine the point-prevalence and risk factors for CDI in Greek hospitals.

Methods Patients hospitalized in 21 Greek hospitals were screened in one single day per hospital during the period March 1st to 31st 2013. All episodes of diarrhoea defined as at least 3 episodes of loose stools in the past 24 hours (type 5-7 of Bristol stool chart) were included. Stools were sampled and CDI was defined as samples positive for both glutamate dehydrogenase (GDH) and toxins A/B of *C.difficile* by an enzyme immunoassay (*C. DIFF QUIK CHEK COMPLETE*® [Alere/TechLab]) or by real-time PCR for the *TdcA/TdcB* genes for samples GDH-positive and toxins A/B-negative. Patients with diarrhoea were divided into CDI(-) and CDI(+). Demographics, past-history and the Charlson's Comorbidity Index (CCI) were recorded and compared. The point-prevalence of CDI in Greek hospitals was the primary endpoint; risk factors associated with the development of CDI were the secondary endpoints. Logistic regression analysis of risk factors was performed and odds ratios (ORs) with 95% confidence intervals (CIs) were calculated.

Results A total of 5,536 patients were screened, from which 159 patients with diarrhoea were enrolled; of these, 27 patients were found to be CDI(+) and 132 CDI(-). The point-prevalence of CDI in Greek hospitals was 0.51% (CIs= 0.31%-0.69%). The point prevalence of CDI among patients with diarrhoea was 17.0% (CIs= 11.17%-22.83%). The highest prevalence was among patients hospitalized in haematology/oncology wards 37.5% compared to 14.7% among patients hospitalized in other wards (p= 0.023). Comparisons of CDI(-) and CDI(+) patients showed antimicrobial therapy in 75% and 92.6% respectively (p= 0.045); age >68 years in 56.5% and 81.5% respectively (p= 0.017); and mean CCI 4.33 and 5.00 respectively (p= 0.295). Logistic regression analysis comprising all 159 patients with diarrhoea showed that the only independent factors associated with CDI were age >68 years (OR= 4.54, CIs= 1.45-14.05; p= 0.009); and treatment with colistin (OR= 4.77, CIs= 1.14-19.89, p= 0.032). Under the influence of both these risk factors, OR for acquisition of CDI was increased to 8.12 (CIs= 1.29-51.23, p= 0.026)

Conclusions A high point-prevalence of CDI was found among nosocomial diarrhoea cases in Greek hospitals with age >68 years and administration of colistin being independent risk factors for CDI. Measures to improve diagnosis, management and infection control are needed.