Isolation of Non-Toxigenic Strains of Clostridium difficile from Cases of Diarrhea Among Patients Hospitalized in Hematology/Oncology Ward

GAYANE MARTIROSIAN1,2*, ADAM SZCZĘŚNY3, STUART H. COHEN3 and JOSEPH SILVA Jr.3

1 Department of Microbiology, Medical University of Silesia, Katowice, Poland
2 Department of Histology and Embryology, Center of Biostructure Research, Warsaw Medical University, Warsaw, Poland
3 Department of Internal Medicine, Division of Infectious and Immunologic Diseases, University of California - Davis Medical Center, Sacramento, USA

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Abstract

Clostridium difficile has become the most common cause of hospital acquired diarrhea after antibiotic treatment. The aim of this study was to determine the frequency of C. difficile associated diarrhea among hematology/oncology ward patients and to characterize isolated strains. Twenty three toxigenic and thirteen non-toxigenic strains were detected among fecal isolates. Antibiotic susceptibility testing to erythromycin and clindamycin demonstrated a high degree of resistance (MIC > 256 ug/ml) to both antibiotics in 9 out of 13 nontoxigenic C. difficile strains. Out of 7 patients with maximal frequency of diarrhea (10 empties/day) in 4 cases non-toxigenic strains of C. difficile were isolated. In these cases duration of diarrhea was longer in time than in cases of diarrhea caused by toxigenic strains. Further investigation with a larger patient population is necessary to better understand the role that non-toxigenic C. difficile strains play in disease development.

Key words: Clostridium difficile, diarrhea, non-toxigenic strains

* Corresponding author address: Department of Microbiology Medical University of Silesia, 18 Medyków str. 40-572 Katowice, PL, phone/fax: (48-32) 252-6075, e-mail: gmartir@slam.katowice.pl, gmartir@ib.amwaw.edu.pl