Introduction

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Nosocomial diarrhea is an important problem in hospitals, particularly in critical care units. Hospital-aquired diarrhea may be infectious or non-infectious. Common non-infectious causes of nosocomial diarrhea include medication-induced changes in the facal flora or changes secondary to enteral hyperalimentation. Infectious causes of nosocomial diarrhea are due to enteric pathogens occuring in outbreak situations and virtually all of the causes are due to *Clostridium difficile (C.difficile)* ***(Cunha, 1998).***

C.difficile is the bacterial pathogen identified as the most common cause of pseudo-membranous colitis (PMC) and antibiotic associated diarrhea (AAD). It affects virtually all cases of PMC and up to 20% of cases of AAD ***(Pochapin, 2000).***

Most cases of *C.difficile* associated diarrhea (CDAD) are seen almost exclusively as a complication of antibiotic therapy. The use of antibiotics causes eradication of the intestinal flora, while the resistant spores of *C.difficile* that are prevalent in the hospital environment, could germinate and adhere to intestinl mucosa ***(Fiorentinii et al., 1998).***

The pathologic findings associated with this infection are believed to be caused by two large exotoxins, toxin A (enterotoxin) and toxin B (cytotoxin) ***(Giannasca et al., 1999).***

Overgrowth of toxigenic strains may result in a wide spectrum of diseases which include, in increasing order of severity, asymptomatic

carriage, self-limiting diarrhea, PMC and fulminant colitis which may result in toxic megacolon and/or intestinal perforation ***(Cleary, 1998).***

Laboratory diagnosis of CDAD depends on isolation of *C.difficile* from the stool which is difficult and not sufficient unless confirmed by detection of *C.difficile* toxins by Enzyme Immunoassay (EIA) and/or cell culture assay (C.C.A) ***(Mylonakis et al., 2001).***

Recurrence is a common sequela of *C.difficile* infection, that may increase morbidity, costs and antimicrobial resistance. These conditions make diagnosis and treatment of *C.difficile* diarrhea a necessary policy in any hospital ***(DoAn et al., 1998).***

AIM OF THE WORK

The aim of this work is to determine the prevalence of *C.difficile* in stool samples from patients suffering from diarrhea after prolonged use of antibiotics, to evaluate the role of *C.difficile* in antibiotic associated diarrhea and to determine which antibiotics are most often responsible.