

عنوان مقاله:

Multi-drug Resistant Clostridioides difficile Isolates in Liver Transplant Recipients

محل انتشار:

سیزدهمین کنگره بین المللی میکروب شناسی بالینی استاد البرزی (سال: 1398)

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خلاصه مقاله:

Background and objectives: C. difficile infection (CDI) is the most common hospital-associated intestinal infection worldwide. Solid Organ Transplant (SOT) recipients are at higher risk for CDI because of their immunosuppressive, antibiotic therapy regimens and prolonged hospitalization. Antibiotic resistance as well as the production of toxin by C. difficile correlate with severity of infection, and in turn, with longer hospitalization. This study was carried out to determine the toxin profiles and antimicrobial susceptibility patterns of C. difficile isolates in recipients of liver transplant. **Materials and Methods:** This study was done on 39 C.difficile strains isolated by anaerobic toxigenic culture from liver transplant recipients who entered to transplant intensive care unit (ICU) at Namazi hospital between October 2016 and July 2017. Minimum inhibitory concentration (MIC) of C.difficile isolates was determined for four antibiotics (vancomycin, metronidazole, ciprofloxacin and erythromycin), using the agar dilution method according to CLSI 2016. Antibiotic resistance was defined as follows: MIC \geq 2 for vancomycin (EUCAST); MIC \geq 32 for metronidazole (CLSI); MIC \geq 8 for erythromycin (CLSI); and MIC \geq 8 for ciprofloxacin (according to moxifloxacin breakpoint in CLSI 2016). Multiplex PCR through the use of specific primers was performed to detect tcdA (encoding toxin A), tcdB (encoding toxin B) and Binary toxin (cdtA, cdtB) genes. **Results:** The rate of vancomycin resistance in C.difficile isolates was 84.6%, while 72.7% of cases had MIC of 8-16 μ g/ml. Over 90% of the isolates showed a high level resistance to ciprofloxacin (97.4%) and erythromycin (97.4%). MDR phenotype was observed in 33 out of 39 (84.6%) of C.difficile isolates, which were meanwhile resistant to ciprofloxacin, erythromycin and vancomycin resistance. No evidence of resistance to metronidazole was observed among the isolates. Out of 39, 23 (59%) isolates were positive for both tcdA and tcdB genes, while 1 (2.6%) isolate was positive only for the tcdB gene. The remaining 15 (38.4%) were non-toxigenic. Only one of toxigenic isolates (4.2%) was positive for the binary toxin genes (cdtA and cdtB). **Conclusions:** The study showed the circulation of MDR C. difficile strains among liver transplant recipients who are at higher risk of CDI. However, all strains of C. difficile were still susceptible to metronidazole, rendering this antibiotic could still be the optimal treatment option for CDI

کلمات کلیدی:

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