Evaluation of multiple antibiotic resistance (MAR) index and Doxycycline susceptibility of Acinetobacter species among inpatients

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Background: Background: Acinetobacter is contributing to increased morbidity and mortality with its strong propensity to colonize and disseminate among humans and environmental sources.

Methods & Materials: Clinical isolates of Acinetobacter species recovered from inpatients of tertiary care institute in North West India were analyzed retrospectively along with their antibiogram to evaluate in vitro activity of Doxycycline. Isolates resistant to more than three different groups of antimicrobials were considered to be multidrug resistant (MDR). MAR index was calculated and interpreted.

Results: A total 93 isolates of Acinetobacter species were recovered from inpatients, out of which predominant were from urine 47 (50.54%) followed by blood 27 (29.03%) samples. MDR isolates were 57 (61.29%) with majority from urine 35 (61.40%) and blood samples 8 (14.04%). Overall antimicrobial susceptibility pattern revealed Imipenem (75.27%), Meropenem (68.82%) and Doxycycline (68.82%) to be most efficacious drugs whereas in MDR Acinetobacter spp. the most promising drug was Doxycycline, which can be considered as an alternative therapy to down regulate selective pressure on carbapenems. In low resource settings, antibiogram along with MAR index serve an important epidemiological tool to monitor drug resistance in Acinetobacter species among inpatients as it is becoming more difficult to treat this pathogen due to the restricted pharmaceutical and therapeutic armamentarium.

http://dx.doi.org/10.1016/j.ijid.2016.02.710
Type: Poster Presentation

Final Abstract Number: 42.249
Session: Poster Session II
Date: Friday, March 4, 2016
Time: 12:45-14:15
Room: Hall 3 (Posters & Exhibition)