Acinetobacter baumannii is amongst the leading cause of mortality in intensive care units (ICU) settings. 1-3 This bacteria belongs to a group of gram negative rods and can cause life threatening nosocomial pneumonia, urinary tract infection (UTI), meningitis and severe wound infections.4 The emerging carbapenem resistant trend of this bug and hence management options for Acinetobacter baumannii (MDR-AB) strains is a challenging task for the health care providers globally. Besides that the organism’s ability to withstand environmental changes and prolonged survival adds up for its endemic nature.5,6 A baumannii colonizes the superficial skin surfaces without producing any infection. But in immunosuppressed patients especially the ones having open wounds, or tracheostomy, this organism becomes an opportunistic one and leads to severe life threatening infection. The important risk factors for acquiring this infections includes mechanical ventilation, major surgeries, central venous, dialysis or urinary catheter, indwelling vascular devices and the overuse of broad-spectrum antibiotics. The infection can spread from person-to-person contact, reuse of contaminated equipment like breathing tubes, catheters, laryngoscopes etc etc. Strict infection control protocols needs to be followed for the prevention of spreading this infection.4 Karabey et al conducted a study in Turkery, and disclosed that the estimated mortality rates of nosocomial infections with A. baumannii is 77%5. A published report for the year 2000, had shown that in USA and Taiwan, the specific nosocomial infection ranked on the fifth number.6 However two researches from Turkey disclosed that it is amongst the leading cause of gram negative nosocomial meningitis. The resistant pattern emergence and difficulty in successful management can be the added factors for high mortality rate in hospitals. The factors responsible for the resistant nature include the degrading beta lactam enzymes, alteration in penicillin binding proteins, and the changes in outer membrane proteins.7,8

Colistin and Tigecycline are the two drugs which can either be used alone or in combination to treat such resistant strain. Active ingredient of Colistin is colistimethate sodium. While Tigecycline belongs to a group of Glycylcyline class of antibiotics and is structurally related to minocycline.9 The common side effects from both these drugs include antibiotic associated colitis by Clostridium difficile, poor pulmonary penetration and nephotoxicity.10,11 A meta analysis review report by Wentao et al, concluded that Tigacycline has a lower rate for microbial clearance when given alone, thus delays the hospital stay and ultimately increases the mortality.12 Shin et al, conducted a study and reported that the combination therapy should be given to critically ill patients in comparison to monotherapy by tigecycline.13 A study report by Koolic et al, described that MDR-AB in a patient having meningitis was well managed by a combination of colistin and tigecycline and yielded good results. It was also emphasized that a combination of intra venous and intra ventricular colistin with intravenous tigecycline should be preferred to manage the cases of MDR-AB meningitis.6

The Clinical and Laboratory Standards Institute (CLSI) or the European Committee on Antimicrobial Susceptibility Testing (EUCAST) are deficient for the reference range of minimum inhibitory concentration (MIC) of tigecycline and colistin.7 Moreover, literature review is also extremely deficient for susceptible zone diameters of these drugs. So, accurate dose adjustment is not possible. Chaugh et al; narrated that until the availability of minimal inhibitory concentrations (MIC) for both these drugs, empirical therapy protocols should be followed.9,11

Another published report in 2014 from Thailand described that a combination of colistin with sulbactam had yielded successful results in childhood age group for the management of MDR-AB.14 In view of high mortality rates from this infection, the clinicians should work in close liaison with the microbiologist, and hospital infection control committee to manage all suspected or confirmed cases. The resultant will reduce the miseries of patients with nosocomial infection. Moreover early case recognition and prompt management will also influence the survival of a patient.

REFERENCES

4. WHO. Multidrug-resistant Acinetobacter baumannii (MDRAB). Website: [http://www.wpro.who.int/mediacentre/factsheets/fs_20101102/en/].
6. Lu CH, Chang WN, Chang HW. Adult bacterial meningitis in southern Taiwan: epidemiologic trend and prognostic factors. J Neurol

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Received for Publication: 13-07-16
Accepted for Publication: 08-08-16