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Evaluation of bacterial resistance pattern among thalassemia patients for updating hospital drug formulary

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Antimicrobial resistance is having significant impact on use of antibiotics. A study was conducted to evaluate bacterial resistance pattern towards antibiotics, in order to integrate antibiotics in formulary for the year 2014. A retrospective analytical study investigated Culture Sensitivity (CS) data of Thalassemia Major patients, on perpetual hospital daycare visit for blood transfusion. 83 samples of positive CS records were extracted from laboratory database from March 2011 to January 2014. Tools premeditated were Blood CS test, Urine CS test, Ear swab method and Pus CS test. The bacterial culture records of these patients were reviewed individually to establish antimicrobial resistance prototype towards antibiotics. Amongst 83 patients analyzed 59% were tested through Blood CS, Urine CS (13.25%), ear swab method (13.25%) and Pus CS (13.25%). Ten different bacteria were nurtured. Growth of Coagulase-negative-*Staphylococcus* (27%), *Escherichia-Coli* species (13%), *Salmonella* species (16%) and *Staphylococcus* species (17%) were most prevalent. The majority of gram negative bacterial species are resistant towards antibiotics trimethoprim/sulfamethoxazole, amoxicillin/clavulanic acid and cefixime. Whereas, good number of gram positive bacterial species are resistant towards erythromycin, trimethoprim/sulfamethoxazole and amikacin. The sensitivity paradigm indicates for gram negative bacterial species penicillins, 2nd and 3rd generation cephalosporins and vancomycin, whereas, for gram positive bacterial species 2nd and 3rd generation cephalosporins, 2nd generation fluoroquinolones and aminoglycosides should become mandatory for hospital formulary. A clinical pharmacist through knowledge, clinical data and substantiation holds power to compress irrational use of antibiotics. Hence, annually updating hospital formulary through evidence can be fruitful practice.

Biography

Sadaf Masood Ahmed has completed her Pharm-D from University of Karachi, Karachi, Pakistan and is currently working towards her MPhil in Clinical Pharmaceutics and PGD in Human Resource Management. She is Pharmacy In-Charge at Afzaal Memorial Thalassemia Foundation, Karachi, Pakistan.

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