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RAA-ESBLE- risk factors associated with acquisition of ESBL *Escherichia coli* infection, detection and treatment, a case report

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ESBL group of organisms are beta lactamase enzyme producing organisms capable of breaking the beta lactam ring in antibiotics hence are resistant to usually cephalosporins and few other antibiotics. In these, *E. coli* is the most common bacteria that lives in gut harmlessly but causes urinary tract infection and in severe cases blood poisoning, septicemia or bacteremia leading to serious sepsis. When not treated it leads to inflammation of body parts, blood clots, blocking oxygen supply and ultimately causing death. In present study report a 51 years old Indian tourist patient was admitted in a Wake Med Health Hospital at USA with symptoms of UTI. In hospital she was diagnosed with ESBL *E. coli* UTI infection with >100,000 colonies/ml and blood culture showed positive result. In this case the sepsis was resulted as secondary infection. She even suffered with chronic anemia. The previous medical history of subject showed several risk factors for acquisition of infection. These include elder age, female gender, chronic anemia, recent hospitalization, surgical procedure (due to hysterectomy), intravenous catheterization, intensive care and prolonged usage of high potency antibiotics. All these factors are established as predictive and prognostic risk factors for acquisition of infection and also results in colonization of organism. The antibiotic sensitivity test was done by using CLSI, MIC method on ampicillin, cefazolin, cefepime, cefazidime, ceftriaxone, ciprofloxacin, levofloxacin, tobramycin showed resistant, nitrofurantoin showed semi resistant and ertapenem, gentamicin, amikacin showed susceptibility. Hence the subject was treated with doripenemas intra venous administration for 15 days with the help of a peripherally inserted central catheter i.e., PICC line. In this case study report, the excessive usage of high dose antibiotics for longer period made the organism resistant or immune. This factor was considered as the primary risk factor followed by hospitalization and gender. In conclusion the study of risk factors helps in identification of high-risk cases of UTI positive infection. But still individualization is needed for identification of risk factors. The drug used for the treatment is expensive and often not available in developing countries. The drug sensitivity tests helps in establishing an empirical antibiotic policy.

Biography

Gadangi Indira has completed her PhD from Kakatiya University in Medical Microbiology on Dermatophytosis. She is an Associate Professor and HOD of Department of Microbiology in Pingle Government College for Women, India. Presently she is working on a major research project funded by UGC. She has published papers in both national and international journals and is a Reviewer for a reputed journal.

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