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A Retrospective Study on the Spectrum of Infection and Emerging Antimicrobial Resistance in Type 2 Diabetes Mellitus

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Abstract : People with diabetes mellitus are more susceptible to developing infections, as high blood sugar levels can weaken the patient's immune system defences. People with diabetes are more adversely affected when they get an infection than someone without the disease, because you have weakened immune defences in diabetes. People who have minimally elevated blood sugar levels experience worse outcomes with infections. Diabetic patients in hospitals do not necessarily have a higher mortality rate due to infections, but they do face longer hospitalisation and recovery times. A study was done in a tertiary care unit in eastern India. Patients with type 2 diabetes mellitus infection were recruited in the study. A total of 520 cases of Type 2 Diabetes Mellitus were recorded out of which 200 infectious cases was included in the study. All subjects underwent detailed history & clinical examination. Microbiological samples were collected from respective site of the infection for microbial culture and antibiotic sensitivity test. Out of the 200 infectious cases urinary tract infection(UTI) was found in majority of the cases followed by diabetic foot ulcer (DFU), respiratory tract infection(RTI) and sepsis. It was observed that Escherichia coli was the most commonest pathogen isolated from UTI cases and Staphylococcus aureus was predominant in foot ulcers followed by other organisms. Klebsiella pneumonia was the major organism isolated from RTI and Enterobacter aerogenes was commonly observed in patients with sepsis. Isolated bacteria showed differential sensitivity pattern against commonly used antibiotics. The majority of the isolates were resistant to several antibiotics that are usually prescribed on an empirical basis. These observations are important, especially for patient management and the development of antibiotic treatment guidelines. It is recommended that diabetic patients receive pneumococcal and influenza vaccine annually to reduce morbidity and mortality. Appropriate usage of antibiotics based on local antibiogram pattern can certainly help the clinician in reducing the burden of infections.

Keywords : antimicrobial resistance, diabetic foot ulcer, respiratory tract infection, urinary tract infection
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