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Evaluation of various risk factors associated with multidrug-resistant organisms isolated from diabetic foot <u>ulcer patients</u>. Datta P¹, Chander J¹, Gupta V¹, Mohi GK¹, Attri AK².

Abstract

AIMS: Diabetic foot ulcer is a dreaded complication of diabetes. Diabetic foot ulcer patients are often infected with multidrug resistant organism (MDRO) due to chronic course of the wound, inappropriate antibiotics treatment, frequent hospital admission, neuropathy, nephropathy, and peripheral vascular disease. MATERIALS AND METHODS: This prospective study was conducted in our 750 bedded hospital for a period of 6 months. The present study was undertaken to isolate various MDRO methicillin resistant Staphylococcus aureus; Gramnegative bacteria producing enzymes such as extended spectrum betalactamases (ESBL), Amp C, Carbapenamases; Pseudomonas and Acinetobacter species producing metallobeta-lactamases (MBL). In addition we attempted to identify risk factors for association of diabetic foot ulcer and MDRO. **RESULTS:** A total of 149 bacterial isolates were identified. Of the total isolates 73.2% were Gram-negative and remaining 26.8% were Gram-positive bacteria. Among Enterobacteriaceae 59% were ESBL producers and 48% were Amp C producers. In addition, 41.5% of the isolates produced both ESBL and Amp C and 13.4% were carbapenem resistant Enterobacteriaceae. Among

20 *Pseudomonas* and *Acinetobacter* isolates, 5 were MBL producers (25%). Furthermore, in the study, 56% of patients with diabetic foot ulcer harbored MDRO. The risk of multidrug-resistant infection is significantly more in patients having diabetes duration >20 years and size of ulcer more than 4 cm². **CONCLUSION:** The detection of MDRO in patients of diabetic foot ulcer changes the treatment strategies limits the antimicrobial options and causes higher complications among them.

KEYWORDS: Diabetic foot ulcer; multidrug resistant organisms; risk factors PMID: 30983804