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Inflammatory markers as risk factors for infection with multidrug-resistant microbes in diabetic foot subjects.

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Diabetic foot ulcers (DFUs), a dreadful microvascular complication of diabetes is responsible for substantial increase in morbidity and mortality. Infection, not a cause, but a consequence in DFUs that accounts for minor or major limb loss. The current study aimed to evaluate the microbial etiology of infected diabetic foot ulcers in northern tertiary care hospital, assessment of risk factors and role of inflammatory markers involved in colonization of multidrug-resistant organisms (MDROs) and their impact on the outcome. Pus aspirates and soft tissue samples from 65 patients with infected DFUs were collected and processed for aerobic culture analysis. Serum concentrations of IL-6 and TNF-α were determined by enzyme linked immuno-sorbent assay. Aerobic gram-negative isolates were more commonly present (74.7%), followed by gram-positive aerobes (25.2%). Fifty-seven percent patients were positive for MDROs. IL-6 (pg/mL) was significantly lower in diabetic patients with MDROs infected foot ulcers than without (47.0±17.2 vs. 78.3±22.1 vs. p=<0.001) and TNF-α (pg/mL) was also significantly diminished in MDROs infected subjects than without (144.2±25.8 vs. 168.7±20.9, p<0.001) respectively. In this study diabetic foot wounds harbored by MDROs were associated with longer duration of ulcer and increased ulcer size. Poor glycemic control was also a confounding factor in mounting MDROs infected ulcers. The declined levels WBCs and neutrophils as well as of cytokines IL-6 and TNF-alpha explains compromised immune responses of host in multi drug resistant infections.