SUMMARY & CONCLUSION

Diabetes mellitus (DM) is a serious health problem and remains an important cause of morbidity and mortality worldwide . Patients with uncontrolled diabetes develop complications , some of the most clinically important are foot ulcers , retinopathy , neuropathy and macrovascular complications . Foot complications such as foot ulcers constitute a major public health problem and impose a heavy burden in health service.

The aim of the work was to isolate identify the most common bacterial causes of diabetic foot lesions , and to assess the susceptabilty pattern of the isolated organisms to the commonly used antibiotics .And also to evaluate the phagocytic index of neutrophils of diabetic foot patients and its change over a short treatment course.

The study was carried out on 35 patients with diabetic foot wound admitted to the General Surgery Department in Benha University Hospital . The following data were collected:

- Personal data : Age , sex.
- Investigation: Fasting and 2 hours post prandial blood sugar before and after the period of therapy .
- Previous hospitalization.
- Other associated diseases.

Blood samples were collected from patients at the beginning of the study and the phagocytic index of neutrophils was determined for each case by the phagocytic test.

Pus aspirates were collected from the foot wound and cultured to isolate and identify the causative bacteria by standard microbiologic methods , and antibiotic susceptibility pattern was done for all bacterial isolates .

All patients received a standered therapy of (insulin , antibiotics as determined from antibiotic susceptibility tests , and surgical debridement).

Another blood sample was collected from each of the studied patient after two weeks of the previously mentioned therapy , and the pahagocytic index was determined by phagocytic test .

The results of the bacteriologic study revealed that , pure culture was found in 12 patients (34.29%)and mixed infection was found in 23 patients (65.71%).

Gram negative isolates considered a high ratio (58.33%) than gram positive isolates (41.67%). Most isolates were aerobes (90%) , however anaerobes were (10%). Staph aureus and Pseudomonas aeruginosa were the bacterial species most commonly isolated from diabetic foot wounds.

The results from susceptibility testing revealed that , the isolated bacteria showed a high resistance ratio (42.3%) to used antibiotics. Vancomycin was the most effective antimicrobial agent against the gram

positive isolated species . On the other hand Ciprofloxacin was the most effective antimicrobial agent against the gram negative isolated species.

The results of the immunologic study (phagocytic test) concluded that there is a statistically significant correlation between phagocytic index and the mean value of blood glucose . The derangement of carbohydrate metabolism may underlie the impairment of phagocytic function of neutrophils of poorly controlled diabetic patients .The data revealed that phagocytic index of neutrophils of diabetic patients with foot infections improves during the short treatment course and might enable the monitoring of efficacy of treatment modalities in these patients.