

Dedication

,My deepest thanks to my parents, brothers, and my sister
 ,without their full co-operation
 .the study would have not been completed

Acknowledgements

Firstly I thank Allah who conferred and gave me the ability to complete this study.

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Abstract

The main aim of this study was to isolate the possible aerobic bacterial pathogens from infected wounds of diabetic and non-diabetic patients.

Therefore, a total of fifty specimens were collected from Jabir Abulezz Center for Diabetic Disorders, Khartoum Teaching Hospital, and Omdurman Military Hospital. Samples were collected from both males and females at different ages and then cultured and incubated at 37 °C for overnight. Isolated bacteria were identified by Gram stain and biochemical tests.

The most common isolated aerobic bacteria among the diabetic patients were *Proteus mirabilis* (19%), while *S. aureus* were the most frequent aerobic bacteria (42.1%) isolated from non-diabetic patients. The study showed that among diabetic patients, infection of females were fairly high (57%) compared to male patients (42%). However, frequency of infection was higher among non-diabetic male patients (73.6%) than female patients (26.3%). The study revealed that elder age patients (51-70 years) were more affected by bacterial infections among diabetic patients compared to non-diabetic patients of the same age. The antibiotic susceptibility patterns of the bacterial isolates were similar among diabetic and non-diabetic patients. Most of the isolated bacteria were sensitive to ciprofloxacin and gentamicin. Furthermore, the results showed that all isolated bacteria were resistant to ampicillin and to tetracycline with exception of *S. aureus*.

In conclusion, diabetic patients were more susceptible to bacterial infection than non-diabetic population, and most of the isolated aerobic bacteria were sensitive to ciprofloxacin and gentamicin.

أُجريت هذه الدراسة لعزل الجراثيم الممرضة من الجروح المخموجة للمصابين بداء السكري والغير مصابين به. وتهدف الدراسة أيضا لقياس تواتر هذه الجراثيم الممرضة وعمل اختبارات الحساسية للصادات الحيوية لجميع أنواع البكتيريا المعزولة. أخذت عينات الجروح من مستشفى الخرطوم التعليمي ومركز جابر أبو العز لأمراض السكري ومستشفى السلاح الطبي. جميع العينات تم زرعها وحضنت في حرارة 37 درجة مئوية لمدة 24 ساعة. وتم التعرف على البكتيريا المعزولة بواسطة الأصباغ والاختبارات الكيموحيوية. توصلت الدراسة الى أن أكثر أنواع البكتيريا إنتشارا بين جروح مرضى السكري هي المتقلبة الرائحة بنسبة 19%. وأكثر أنواع البكتيريا إنتشارا بين جروح الأشخاص الغير مصابين بالسكري كانت المكورات العنقودية الذهبية بنسبة 42.1%. وجدت الدراسة أن معدل الإصابة في العينات المأخوذة من جروح مرضى السكري أعلى في الإناث ب قدر قليل منه في الذكور بينما يزيد هذا المعدل ب قدر كبير لدى الذكور في حالة الأشخاص الغير مصابين بالسكري. كما استنتجت هذه الدراسة ان أعلى نسبة للإصابة تقع في الفئة العمرية (51-70) بين مرضى السكري مقارنة بمن هم في نفس الفئة العمرية من الأشخاص الغير مصابين بالسكري. أثبتت الدراسة من خلال إجراء تفاعلات الحساسية للبكتيريا المعزولة ضد الصادات الحيوية أنه لا توجد فروق بين مرضى السكري والغير مصابين بالسكري في استجابة جميع أنواع البكتيريا المعزولة منهم لأنواع الصادات الحيوية الأربعة المستعملة في هذه الدراسة وهي السبروفلوكساسين والجنتاميسين والتتراسيكلين والأمبسلين. فقد أظهرت أغلب أنواع البكتيريا حساسيتها للسبروفلوكساسين وللجنتاميسين، أما بالنسبة للتتراسيكلين فقد أظهرت جميع أنواع البكتيريا المعزولة مقاومتها له فيما عدا العنقودية الذهبية. ومن خلال إختبارات الحساسية التي أجريت وجدت الدراسة أن جميع أنواع البكتيريا المعزولة مقاومة للأمبسلين.

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