

بسم الله الرحمن الرحيم

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Frequency and Susceptibility Patterns of *Staphylococcus aureus* among Patients with Otitis Media in Khartoum State

دكتوراه في العلوم الطبية
ميكروبيولوجيا
ميكروبيولوجيا

A dissertation submitted in partial fulfillment for the
requirements of M.Sc in Medical Laboratory Science
(Microbiology)

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الآية

الآيات (1-5) من سورة العلق

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اقْرَأْ بِاسْمِ رَبِّكَ الَّذِي خَلَقَ (1) خَلَقَ
الْإِنْسَانَ مِنْ عَلَقٍ (2) اقْرَأْ وَرَبُّكَ
الْأَكْرَمُ (3) الَّذِي عَلَّمَ بِالْقَلَمِ (4) عَلَّمَ
الْإِنْسَانَ مَا لَمْ يَعْلَمْ (5)

صدق الله العظيم

الآيات (1-5) من سورة العلق

Dedication

I dedicate this research to

My parents ...

My husband ...

My son and daughter

My brothers and sisters

My friends and my colleagues ...

The persons, whom I love, respect and appreciate

Every one from whom I learned.

Acknowledgment

First of all, thanks for ALMIGHTY ALLAH who gave me the power to complete this study.

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Abstract

This is a descriptive study conducted in the Research Laboratory, Sudan University of Science and Technology in the period from February to March 2011. The aim of

the study was to determine frequency of and susceptibility pattern of *Staphylococcus aureus* among patients with otitis media in Khartoum State. One hundred ear swabs were collected from patients with different ages and sexes suffering from ear discharge, the isolates were identified by morphological characteristics on culture and biochemical tests. And antimicrobial sensitivity was performed in vitro by disc diffusion method. The results revealed that, 27% *Staphylococcus species* (15 % *S.aureus* and 12% *S.epidermidis*), 53% other bacteria and 20% no growth. *S. aureus* was sensitive to vancomycin (100%), then ciprofloxacin (93%), amikacin (86%), methicillin (86%) and oxacillin (86%), norfloxacin (80%), cefuroxime (66%), co-trimoxazole (46%). Otitis media caused by *S. aureus* constitute a significant and a major health problem, affects children mainly and less common in adults. Further investigations are needed to study the etiology of otitis media and the resistance to antimicrobial agents.

□□□□□□

أجريت هذه الدراسة في معمل الأبحاث بجامعة السودان للعلوم والتكنولوجيا في الفترة ما بين مارس إلى ابريل 2011. وهدف هذه الدراسة هو تحديد تردد ونمط حساسية المكورات العنقودية الذهبية لدى مرضى التهاب الأذن الوسطى بولاية الخرطوم. جمعت مائة مسحة من الأذن من مرضى بمختلف الأعمار والأجناس يعانون من إفرازات الأذن. تم التعرف علي البكتيريا التي تم عزلها حسب خصائصها المظهرية والتفاعلات الكيميائية. وكذلك اجريت اختبار الحساسية عن طريق الأقراص بالتشرب. وظهرت الدراسة ان نسبة المكورات العنقودية 27% (منها 15% المكورات العنقودية الذهبية و 12% المكورات العنقودية البيضاء) وكانت العزلات الاخرى تمثل 53% و 20% لم يتم العزل منها. وكانت البكتيريا العنقودية الذهبية حساسة للفانكوميسين (100%), سبروفلوكسين 93%, اميكيسين 86%, ميسيسلين 86% ثم اوكساسلين 86%, نورفلوكساسين 80%, سيفوروكزيم 66%, كوترايمكرازول 46%. التهاب الاذن الوسطي الناتجة المكورات العنقودية الذهبية يمثل مشكلة صحية هامة يصيب الأطفال بصورة كبيرة وا قل عند الكبار.

Table of contents

Title	Page No.
□□□□□	I

Title	Page No.
Dedication	II
Acknowledgment	III
Abstract	IV
□□□□□□	V
Table of contents	VI
List of tables	X
List of figures	XI
Chapter One: Introduction and Objectives	
Introduction 1.1	1
1.2 Rationale	3
1.3 Objectives	3
Chapter Tow: Literature Review	
2.1 Background	4
2.2 Definition	4
2.3 Taxonomy	5
2.4 Phenotypic characteristic of <i>S. aureus</i>	5
2.5 Normal Habitats of <i>S. aureus</i>	6
2.6 Pathogenesis of <i>S. aureus</i> infections	6
2.7 Virulence factor of <i>S. aureus</i>	6
2.8 Transmition of <i>S. aureus</i>	11
2.9 Laboratory diagnosis	11
2.10 Management	12
2.11 Epidemiology	12
2.12 Bacteriophage typing	12
2.13 Prevention	13
2.14 Otitis media	13
2.15 Bacteriology of chronic suppurative otitis media	16

Title	Page No.
2.16 Review of chronic suppurative otitis media related mortality rates	16
2.17 Causes of chronic suppurative otitis media related deaths	17
Chapter Three: Materials and Methods	
3.1 Study design	18
3.2 Study area	18
3. 3 Study duration	18
3.4 Study population	18
Sample size 5 .3	18
3. 6 Collection of specimens	19
3.7 Culture of Specimens	19
3.8 Identification	19
3.9 Biochemical diagnosis	20
3.10 Antibiotic sensitivity testing	21
Chapter Four: Results	
4.1 Distribution of specimens and isolation of organism	22
4.2 Results of Culture	24
4.3 Results of Gram staining	26
4.4 Results of biochemical identification	27
4.5 Results of antibiotics susceptibility tests	29
Chapter Five :Discussion	
Discussion	31

Title	Page No.
Conclusion	32
Recommendations	33
References	34
Appendixes	37

List of tables

Title	Page No
Table 1: Distribution of isolated organism according to sex	22
Table 2: Distribution of isolated organism according to age and sex	23
Table3: Results of biochemical identification	27
Table 4: Zone of inhibition for susceptibility tests	30

List of figures

Title	Page No page
Figure 1: <i>Staphylococcus aureus</i> culture on blood agar	24
Figure 2: <i>Staphylococcus aureus</i> culture on MacConky agar	25
Figure 3: <i>Staphylococcus aureus</i> culture on Manitol Salt agar	25
Figure4: <i>Staphylococcus aureus</i> culture on Chromogenic medium	26
Figure 5: Gram staining of <i>Staphylococcus aureus</i>	26
Figure 6: Positive catalase test of <i>Staphylococcus aureus</i>	28
Figure7: <i>Staphylococcus aureus</i> culture on DNA medium	29
Figure8: Antibiotic disc on <i>S. aureus</i> culture on Muller and Hinton medium	30