

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

قال الله تعالى

يَرْفَعِ اللَّهُ الَّذِينَ آمَنُوا مِنْكُمْ وَالَّذِينَ أُوتُوا الْعِلْمَ دَرَجَاتٍ وَاللَّهُ بِمَا تَعْمَلُونَ خَبِيرٌ

صدق الله العظيم

سورة المجادلة الآية 11

Dedication



To my parents

***To my husband and
sons***

***To my brothers, sisters
and Friends***

Acknowledgment

First of all thanks to ALLAH for giving me strength to complete this study

Great thanks to my supervisor Dr. Humodi Ahmed Saeed, Dean, College of Medical Laboratory Sciences, Sudan University of Science and Technology.

Also great thanks to Dr. Mogahid Mohamed El Hassan and all staff members in the Research Laboratory for their help.

Abstract

This study was carried out in Research Laboratory of Sudan University of Science and Technology during the period between December 2009 to May 2010, to detect extended spectrum beta-lactamase genes in *Enterobacter sakazakii*

Six bacterial strains were obtained from Research Lab. DNA was extracted from each strain using boiling method. Purity of DNA was conducted by run the extract on 1.5% agarose gel. Multiplex PCR technique was adopted to detect *bla* TEM, *bla* SHV and *bla* CTXM genes.

This study showed that 6 strains (100%) of *Enterobacter sakazakii* were positive for *bla* TEM gene and the other genes were not detected.

.The study concluded that TEM gene is responsible for ESPL in *E. sakazakii* strains

الخلاصة

اجريت هذه الدراسة في مختبر الابحاث بجامعة السودان للعلوم والتكنولوجيا في الفترة من ديسمبر 2009 الي مايو 2010 للكشف عن جينات البيتا لاكتاميزممتدة الطيف في الامعائية السكازاكية. تم الحصول على ست سلالات من مختبر الابحاث. تم استخلاص الحمض النووي من البكتيريا بطريفة الغليان ثم اختبار نقاوة الحمض النووي بأستعمال % 1.5 من الأجار الهلامى. أستعمل تفاعل البلمري التسلسلي متعدد الأرسال للكشف عن جينات البيتا لاكتاميز وهي *blaTEM*, *bla SHV*, *CTXM*. أظهرت النتائج أن الست سلالات (100%) موجبة لجينات *blaTEM* فى الامعائية السكازاكية ولم يتم التعرف على باقى الجينات. خلصت الدراسة بأن جينات *bla TEM* هي المسؤولة عن إفراز إنزيمات البيتا لاكتاميز ممتدة الطيف في الإمعائية السكازاكية .

Table of Contents

No	Contents	Page No
1	الافتتاحية	I
2	Dedication	II
3	Acknowledgment	III
4	Abstract	IV
5	Abstract (Arabic)	V
6	Table of Contents	VI
Chapter One: Introduction		
1.1	Introduction	1
1.2	Rationale	1
1.3	Objectives	2
Chapter Two: Literature Review		
2.1	<i>Enterobacter sakazakii</i>	3
2.1.1	History	3
2.1.2	Classification	3
2.1.3	Definition	3
2.1.4	Habitat	3
2.1.5	Mode of transmission	4
2.1.6.	Pathogenesis and pathogenicity	4
2.1.7	Epidemiology	4
2.1.8	Lab diagnosis	5
2.1.8.1	Specimen	5
2.1.8.2	Culture	5
2.1.8.3	Biochemical tests	5
2.1.8.4	API 20 E	5
2.1.8.5	Molecular biology	5
2.1.9	Treatment	6
2.2	ESBLs	6
2.3	PCR	7
Chapter Three: Materials and Methods		
3.1	Study design	8

3.1.1	Type of study	8
3.1.2	Bacterial strain	8
3.1.3	Study area	8
3.1.4	Duration of study	8
3.1.5	Activation of bacterial strain	8
3.1.6	Purification of bacterial strain	8
3.1.7	Extraction of bacterial strain	9
3.1.8	Preparation of reagents	9
3.18.1	Primers	9
3.1.8. 2	Preparation of 10x TBE buffer	10
3.1.8. 3	Preparation of 1x TBE buffer	10
3.1.8. 4	Preparation of agarose gel	10
3.1.8. 5	Preparation of Ethidium bromide	11
3.1.8. 6	Preparation of loading dye	11
3.1.9	Multiplex PCR	11
3.1.9. 1	Preparation of Master Mix	11
3.1.9. 2	PCR amplification	11
3.1.9. 3	Visualization of PCR products	12
Chapter Four: Results		
4.1	Source of <i>Enterobacter sakazakii</i> clinical isolates	13
4.2	Reactivation of bacterial strain	13
4.3	Purification of bacterial strain	13
4.4	Multiplex PCR technique	13
Chapter Five: Discussion, Conclusion and Recommendations		
5.1	Discussion	15
5.2	Conclusion	15
5.3	Recommendations	16
	References	17

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