

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

قال الله تعالى

وَفِي الْأَرْضِ آيَاتٌ لِّلْمُوْقِنِينَ (20) وَفِي
أَنْفُسِكُمْ أَفَلَا تُبْصِرُونَ (21)

صدق الله العظيم

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Dedication

This work is dedicated to my Mother, father, brothers and sisters, without whom I would not have had the strength and support necessary to succeed throughout my graduate work. I also dedicate this work to my friends and colleagues whose friendship through laughter and tears helped me thrive.

Acknowledgement

With a great deal of respect I want to thank my supervisor Dr. Humodi Ahmed Saeed, who spared neither time nor effort in enlightening and helping me. I also thank everybody in the research Lab. for their scientific discussion that has contributed to this project. I especially thank Dr. Mogahid, Ustaz. Mansoor, Dr. Misk Alyaman, Mr. Modather and Mr. Muntaser for their help and support.

Abstract

This study was carried out in the period from May 2007- March 2008 to evaluate the real-time PCR technique for direct detection of *Shigella flexneri* in stools. Forty-six stool specimens were collected from patients attended to Khartoum state Hospitals. Bacterial DNA was extracted directly from each stool specimen using phenol choloroform technique. The DNA amplified by real-time PCR using specific *Shigella flexneri* primers. *Shigella flexneri* DNA detected in 12 (26.1%) of the extract. The study concluded that the real-time PCR technique facilitates rapid direct detection of *Shigella flexneri* in stool without any culture.

الخلاصة

اجريت هذه الدراسة في الفترة ما بين مايو 2007م إلى مارس 2008م لتقييم تنبؤة المسبار الجيني في الكشف المباشر عن الشـ قـبـلـاـ الفـلـكـسـ بـيـنـيرـيـةـ فـيـ عـيـنـاتـ البرـازـ. تم تجميع ست و اربعين عينة براز من مرضى مستشفىات ولاية الخرطوم، ثم تم استخلاص الحمض النووي (الدـنـاـ) البكتيرى مباشرة من هذه العينات بواسطة تنبؤة الفـيـنـدـ وـلـ كـلـورـفـورـمـ. تم الكشف عن الشـ قـبـلـاـ الفـلـكـسـ بـيـنـيرـيـةـ فـيـ العـيـنـاتـ المـسـتـخـلـصـةـ باـسـتـخـدـمـ تـنبـؤـةـ تـفـاعـلـ الـبـلـمـرـةـ الـمـتـسـلـلـ الزـمـنـيـ وـأـظـهـرـتـ النـتـائـجـ الـكـشـفـ عـنـ وـجـودـ 12ـ عـيـنـةـ اـيجـابـيـةـ (26.1%). خـلـصـتـ الـدـرـاسـةـ إـلـىـ انـ تـنبـؤـةـ الـبـلـمـرـةـ الـمـتـسـلـلـ الزـمـنـيـ يـسـاعـدـ عـلـىـ الـكـشـفـ الـمـبـاـشـرـ وـ السـرـيـعـ لـجـرـاثـيـمـ الشـ قـبـلـاـ فـيـ عـيـنـاتـ البرـازـ

Table of Contents

No	Contents	page
	اعیا	i
	Dedication	ii
	Acknowledgement	iii
	Abstract (English)	iv
	Abstract (Arabic)	v
	Table of contents	vi
	List of Tables	ix
	List of figures	ix
	Chapter One: Introduction and literature review	
1.1	Introduction	1
1.1.1	Entrance	1
1.1.2	The genus <i>Shigella</i>	2
1.1.2.1	Definition of genus <i>Shigella</i>	2
1.1.2.2	History	2
1.1.2.3	Classification	2
1.1.2.4	Biochemical reaction	3
1.1.2.5	Antigenic structure	3
1.1.2.6	Natural habitat	3
1.1.3.	pathogenicity	4
1.1.3.1	Mode of transmission	4

1.1.3.2	Diseases	4
1.1.3.3	Virulent factor	4
1.1.3.4	Laboratory diagnosis	5
1.1.4	Polymerase chain reaction (PCR)	6
1.1.4.1	Definition	6
1.1.4.2	Diagnostic Applications of PCR	6
1.1.4.3	Steps of a PCR	6
1.1.4.3.1	Primer construction	6
1.1.4.3.2	Denaturation	7
1.1.4.3.3	Annealing	7
1.1.4.3.4	Chain extension	7
1.1.4.3.5	Detection of amplified DNA	7
1.1.5	Real-Time PCR Techniques	7
1.1.5.1	History of Real-Time PCR Techniques	8
1.1.5.2	Theory of real-time PCR	8
1.1.5.3	Variation of real-time PCR	9
1.1.5.4	Signal detection	9
1.1.5.5	Application of real-time PCR in bacteriology	10
1.2	Literature review	10
1.3	Objectives	11
	Chapter Two: Materials and Methods	
2.1	Study Area	13
2.2	Subjects	13
2.3	Age of subjects	13
2.4	Sample size	13
2.5	Site of collection	13

2.6	sterilization	13
2.7	Experimental work	13
2.7.1	Collection of specimens	13
2.7.2	Pre extraction of specimens	13
2.7.3	DNA Extraction	14
2.7.3.1	Reagent preparation	14
2.7.3.2	Method	14
2.7.4	DNA amplification and analysis	15
2.7.4.1	Equipment and reagent	15
2.7.4.2	Master mix preparation	15
2.7.4.3	Plate preparation	16
2.7.4.4	Amplification	16
	Chapter Three: result	
3.1	Clinical specimens	17
3.2	DNA extraction	17
3.3	Detection of <i>Shigella flexneri</i>	17
	Chapter four dissection	
4	dissection	22
	References	24
	Appendixes	27

List of Tables

Table 1	Distribution of specimens according to hospitals	17
Table 2	Distribution of specimens according to age	18
Table 3	Shows positive and negative result	18
Table 4	distribution of positive samples according to age	18
Table 5	percentage of positive specimens from total specimens according to age group	18
Table 6	percentage of positive samples within an age group	19
Table 7	distribution of positive samples according to hospitals	19

List of Figures

Figure 1	Shows areal sigmoid curve of the positive result and non template control in plate layout	20
Figure 2	Shows areal sigmoid curve of the positive result in plate layout	20
Figure 3	Shows atypical sigmoid curve of duplicate sample	21