

الجامعة السودانية للعلوم والتكنولوجيا
كلية الدراسات العليا

**Sudan University of Science and Technology
College of Graduate Studies**

**Detection of *Providencia rettgeri* in Urine Specimens
using Real-time Polymerase Chain Reaction Technique**

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**A dissertation Submitted in Partial Fulfillment for the
Requirement of M.Sc. in Medical Laboratory
(Microbiology**

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2008

Dedication

I dedicate this research to my parents, brothers and all friends.

Special thanks to my wife and kind daughter for their love and support.

Acknowledgement

Firstly all thanks goes to God "Allah"
For helping me to complete this
research.

I am particularly grateful to my
supervisor Dr. Humodi Ahmed Saeed
for his help and valuable orientations.
Great thanks to all teachers and
colleagues who helped me all the
times.

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Abstract

This study was carried out in Khartoum state during the period between May 2007 to March 2008 to detect *Providencia rettgeri* in patients with urinary tract infection. Forty-six specimens of urine were collected from different hospitals in Khartoum state. Bacterial DNA was extracted from each urine specimen by using phenol chloroform method, and then the real time PCR technique was adopted to detect *P. rettgeri* in these specimens. This study showed that the positive results were 4.3% and the negative results were 95.7%. The study concluded that the real-time PCR is a powerful technique for fast identification of *Providencia rettgeri* from urine specimens compared to the bacteriological culture and it has the potential to be used in a diagnostic microbiology laboratory.

الخلاصة

اجريت هذه الدراسة بولاية الخرطوم في الفترة من مايو 2007 وحتى مارس 2008. حيث تم جمع 46 عينة بول من مرضي التهابات المجاري البولية من عدة مستشفيات في ولاية الخرطوم وذلك للتأكد من بكتيريا البروفيدنسيا رتق راي.

تم استخلاص الحمض النووي الرايبوزي من قوص الاوكسجين لكل عينة بول بواسطة استخدام طريقة الفينول كلوروفورم ثم استخدمت تقنية تفاعل البلمرة المتسلسلة الزمنية لكشف بكتيريا بروفيدنسية رتق راي. اظهرت الدراسة ان 4.3% من العينات كانت موجبة , بينما 95,7% كانت سالبة . استخلصت الدراسة ان تقنية تفاعل البلمرة المتسلسلة الزمنية تقنية فعالة و قوية حيث يتم الكشف علي البكتيريا بسرعة بالمقارنة مع استخدام تقنية الاستزراع المذبري ولها فعالية اذا استخدمت في المعامل التشخيصية للأحياء الدقيقة .