

بسم الله الرحمن الرحيم

قال الله تعالى

﴿ اقْرَأْ بِاسْمِ رَبِّكَ الَّذِي خَلَقَ ﴾

صدق الله العظيم

سورة العلق الآية (1)

Dedication

I dedicate this research to

My father.....

My mother.....

Who taught me how I could be humanate

My brothers and sisters....

For their support and kindness

My friends and colleagues.....

The persons whom I love, respect and
appreciate.....

and

Every one from whom I learned...

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Abstract

The study aimed to use PCR, as a rapid tool for the diagnosis of pulmonary tuberculosis from sputum samples among clinically suspected patients in Khartoum state

Sputum samples were collected from patients attending Abu Anga Hospital, Alsha'ab Teaching Hospital and Tuberculosis Reference Laboratory. Patients were consented and informed. From 171 patients 30 (17.5%) has a history of previous infection with TB while 141 (82.5%) were consider as new cases.

Direct smear result showed that 37 (21.6%) Smear were positive while 134 (78.4) showed negative. All sputum samples were inoculated in LJ media, 40 (23.4%) showed MTC-like colonies, 10 (5.8%) were considered rapidly growing mycobacteria, 2(1.2%) showed contamination and 119 (69.6%) no growth. The recover MTC-like colonies were identified by conventional methods.

DNA was extracted from all sputum samples using Isopropanol method. Then they were subjected to PCR where 142 (83%) samples showed *IS 6110* amplicons of 123 bp in size as indicated by the DNA marker. 29 (17%) samples were PCR negative.

These results revealed clearly the importance, feasibility and sensitivity of the PCR as a rapid diagnostic tool to detect *M. tuberculosis* from direct sputum sample.

النتائج والمناقشة

هدفت الدراسة إلى استخدام تفاعل البلمرة التسلسلي، كأداة سريعة لتشخيص السل الرئوي من عينات التفاف عند المرضى الذين يعانون من أعراض السل في ولاية الخرطوم .

تم جمع عينات التفاف من المرضى الذين حضروا لمستشفى ابوعنجة , ومستشفى الشعب التعليمي , و المعمل القومي الصحي. و قد تم تنوير المرضى بهذه الدراسة واخذ موافقتهم. من جملة 171 مريض, 30 (17.5%) وجد لديهم تاريخ سابق في التعرض لعدوي السل, بينما 141 (82.5%) من دون تاريخ سابق.

اظهرت نتائج صبغة العصويات المقاومة للحمض ان 37 (21.6%) مسحة كانت موجبة , بينما 134 (78.4%) اظهرت نتيجة سلبية. كل عينات التفاف تم تزريعها وسط ليونيستين جنسن, 23.4% اظهرت مستعمرات تشبه عضيات البكتيريا المتفطرة الدرنية, 5.8% اعتبرت متفطرة سريعة النمو و 70.8% من العينات اظهرت تلوث اولم تنمو. المستعمرات التي تشبه المتفطرة الدرنية تم تاكيدها بواسطة الطرق التقليدية.

تم استخراج الحمض النووي الريبي من قوص الأكسجين من جميع عينات التفاف بطريقة الأيسوبروبانول وتم إختبارها بواسطة تفاعل البلمرة التسلسلي, 142 (83%) عينة أظهرت حمزة مطابقة في القياس للجين المستهدف كما هو مشار إليه بواسطة المؤشر القياسي للحمض النووي الرايبوزي منزوع الأكسجين, بينما اظهرت 29 (17%) عينة نتائج سلبية.

اظهرت النتائج بوضوح أهمية, وحساسية, وجدوى تفاعل البلمرة التسلسلي كأداة سريعة للتشخيص والكشف عن المتفطرة السلية من عينات التفاف.

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