

Dedication

To the messenger of Allah
Mohammed, Prayer of Allah and
Peace upon him, the first teacher
who gives us the speech.

To my parents for their love and
support.

To all my friends.

Acknowledgement

First of all my thank to Allah for giving me the courage, ability and strength to accomplish this work

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With love to all

ABSTRACT

Tuberculosis continues to be one of the most prevalent diseases and is the leading cause of mortality from a single disease worldwide. In the developing countries the disease is mainly influenced by poverty while in the developed world it is influenced by AIDS. In Sudan, tuberculosis represents a major health problem.

One hundred sputum samples were collected from suspected pulmonary tuberculosis patients at Al Shaab Teaching Hospital, Abu Anga Hospital and the National Health Laboratory in Khartoum State during the period from November 2008 to May 2009.

In this study, male were found to be more affected than females (67%). All age groups were affected, but with variable degrees, the age at most risk were found to be 21 - 50 years, which comprised (72%) patients. The highest infection rate according to occupation of the patients was found among labours (29%), where as the lowest infection rate was found among unemployed people (7%). The majority of patients came to the above mentioned health institutions from other states. It was found that most of the patients were from Western and Southern Sudan, where the economic and health status are more deteriorated.

Of The 100 sputum samples, 83 gave growth of *Mycobacterium* tuberculosis complex , 10 gave rapid growers and 7 gave no growth.

Isolate of Mycobacterium tuberculosis complex were identified according to their ziehl-Neelsen stain, cultural characteristics and biochemical proprieties.

Lowenstein Jensen proportion method was used to test the antimicrobial sensitivity of the 83 isolates of

Mycobacterium tuberculosis complex against four drugs:

Isoniazid (INH), Rifampicin (RIF), Streptomycin (STM) and

Ethambutol (ETH), only (36%), isolate were sensitive to

the four drugs, (38%) isolates were resistant to INH,

(24%) isolates were resistant to RIF, (37%) isolates were

resistant to STM and (29%) isolates were resistant to ETH,

while (3%) isolates were resistant to INH and RIF,

Resistant to INH + RIF + STM (4%) , INH + RIF + ETH (1%) , INH +

STM + ETH (2%) , RIF + STM + ETH (1%) . Twenty two (22%)

isolates were resistant to the four drugs.

The results obtained from this study revealed the existence of Multi-

Drug resistant *Mycobacterium tuberculosis* among Sudanese TB patients

thus, clinicians should give more attention for treatment follow up.

ملخص البحث

الدرن هو إحد الأمراض الواسعة الإنتشار في العالم، وفي الدول الأقل نمواً نجد أن السبب الأساسي هو الفقر، بينما في الدول النامية والمستقرة إقتصادياً نجد أنه يرتبط ارتباطاً وثيقاً بنقص المناعة المكتسب فهو يمثل مشكلة صحية كبيرة في السودان .

تم جمع عدد 100 عينة تفاف من مرضى يشته في إصابتهم بالدرن الرئوي من مستشفى الشعب التعليمي ومستشفى أبو عنجة للأمراض الصدرية والمعمل القومي الصحي في ولاية الخرطوم في الفترة من نوفمبر 2008م إلى مارس 2009م.

في هذه الدراسة وجد أن عدد الذكور أكثر من عدد الإناث، (67%) كل الفئات العمرية كانت مصابة ولكن بدرجات مختلفة، الفئة العمرية 21-50 سنة كانت أكثر عرضة للإصابة (72%)، إعتماًداً على مهن المرضى وجد أن أعلى نسبة إصابة (29%) في الطبقة العمالية واقلها (7%) بين أفراد الطبقة الغير عاملة. كذلك تبين أن معظم المرضى الذين حضروا إلى المراكز الصحية التي ذكرت أعلاه قد قدموا من ولايات أخرى ومعظمهم من غرب وجنوب السودان ويرجع ذلك للتردى في الوضع الصحي والإقتصادي.

من مجمل 100 عينة عزلت أفراد مجموعة المتفطرة الدرنية، (83%) عينة (10%) عينات متفطرات سريعة النمو، (7%) عينة لم تعطي نمو ميكروبي.

تم التعرف على عزلات مجموعة المتفطرة الدرنية إعتماًداً على خصائصها المجهرية، المزرعية والكيموحياتية.

تم إجراء إختبار الحساسية لعدد 83 عزلة من المتفطرة الدرنية للأدوية الأربعة: إيزونيازيد، ريفامبسين، استربتومايسين، إيثامبيتول فقد عدد (36%) عزلة كانت حساسة للأدوية الأربعة. عدد (38%) كانت مقاومة للإيزونيازيد، (24%) عزله كانت مقاومة للريفامبسين (37%) عزلة كانت مقاومة للاستربتومايسين، (29%) كانت مقاومة للإيثامبيتول، بينما

كانت (3%) مقاومة لعقاري إيزونيازيد وريفامبسين، وكانت المقاومة للايزونيازيد وريفامبسين استربتومايسين (4%)، الايزونيازيد وريفامبسين واثامبيتول (1%) ، ايزونيازيد واستربتومايسين واثامبيتول (2%)، وريفامبسين واستربتومايسين واثامبيتول (1%) (22%) عزلة كانت مقاومة للعقاقير الأربعة.

لخصت هذه الدراسة إلي وجود مقاومة للبكتيريا الرئوية الدرنية لمجموعة من المضادات الحيوية لدي المصابين في السودان لذي يجب علي الطبيب المعالج الإهتمام بمتابعة العلاج

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