

Sudan University of Science and Technology

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**Detection of Cytological changes associated with
Pulmonary Tuberculosis among patient attending
Port-Sudan teaching hospital**

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تحديد التغيرات الخلوية المصاحبة للاصابه بالتدن الرئوي للمرضى بمستشفى
بورتسودان التعليمى في الفترة ٢٠٠٨ — ٢٠٠٩ م

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Dedication

To my parents who surrounded me with everlasting love and care

To the soul of my brother Magdi

To my brothers and sisters

To my daughter Reel

To my teachers and my colleagues

To my friends

*And to everyone who gave encouraged me to successful finish this
study*

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ABSTRACT

This case control, hospital base study carried out in tuberculosis department Port-Sudan teaching hospital red sea state, during the period from December 2008 to August 2009. The main objectives were to evaluate the association between tuberculosis infection and lung cancer using cytological techniques, and to compare the cytological appearance of sputum using different method of stains (Papanicolaou , may-Grunwald and Giemsa , haematoxylin and eosin stain). Sputum specimens were 200 samples collected from patient complaining from signs and symptoms of T.B infection and Z.N positive, this group constitute the case 100 sample, control group 100 sample were Z.N negative patient with symptoms of chest infection, The results obtained indicated tuberculosis causes change on the cells we found many cytological changes among case group ranged from metaplastic change 8%, micro nuclear change 64%, and chronic inflammatory changes28%. The quality of stains was as follows Papanicolaou stain scored the best result compare to the May-Grunwald Giemsa stain, and Harris's Haematoxylin and Eosin, we conclude that according to our finding there was no malignant changes on sputum cytology among tuberculosis patients, we found many metaplastic change which is a pre malignant status the quality of Papanicolaou stain as method for sputum cytology is superior to other cytological stains May – Grunwald Giemsa gives acceptable results. The study recommended to screen T.B patient for cytological abnormalities and to conduct other study with larger sample size to confirm or refute our finding.

ملخص الدراسة

هذه دراسة مستشفوية بين مجموعة الحالة والضبط . واجريت هذه الدراسة بمستشفى بورتسودان التعليمي بولاية البحر الاحمر، فى الفترة من ديسمبر ٢٠٠٨ الى اغسطس ٢٠٠٩ . والهدف الاساسي منها تقييم العلاقة بين الاصابة بالسل الرئوى وسرطان الرئة باستخدام التقنيات الخلوية، ومقارنة المظاهر الخلوية باستخدام اصباغ مختلفة مثل (البابينيكولا و الميقرنولد جيمسا و الهيماتوكسلين و الايوسين) . جمعت ٢٠٠ عينه قشع من مرضى يعانون من اشارات واعراض من الاصابة بالسل الرئوى، وصبغة الزيل نيلسن كانت ايجابية لمجموعة الحالة، ومجموعة الضبط بالزيل نيلسن كانت سالبة وكان المرضى يعانون من اعراض اصابات صدرية. وجدت الدراسة انه لا توجد علاقة ذات دلالة احصائية بين الاصابة بالتلدرن الرئوى وسرطان الرئة اعطت موشر الي: ان السل الرئوى يسبب تغير على الخلايا وجد ان هنالك تغير خلوي متعدد على مجموعة الحالة وهذا التغير تراوح مابين تحول خلوي ٨٪، تغير نووى ٦٤٪ والتهاب مزمن ٢٨٪، وجد ان هنالك تغير بين مجموعة الحالة والضبط وحتى تغير في المتغيرات وعلى حسب جودة الاصباغ وجد ان صبغة البابينيكولا كانت اقى من اليقرنولد جيمسا و الهيماتوكسلين والايوسين. وجدت الدراسة انه لا توجد علاقة ذات دلالة احصائية بين التغيرات الخلوية وطبيعة العمل ومستوى التعليم والجنس والاعمار والقبائل علي حسب ما وجدناه من هذه الدراسة توصلنا الى انه ليس هنالك اي تغير سرطانى على مستوى المصابين بالسل الرئوى في عينات القشع. وكان هنالك تحول خلوي وهو (تحول قبل سرطانى). والبابينيكولا كانت اجود وافضل صبغة عينات القشع اكثرا من الميقرنولد جيمسا و الهيماتوكسلين والايوسين واعطت نتائج مقبولة. ونوصى بعمل مسح خلوي للمصابين بالسل الرئوى لمعرفة التركيب الخلوي الغير طبيعي، بزيادة حجم العينات للوصول لنتائج اشمل.

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