

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

قال تعالى

قَالُوا سُبْحَانَكَ لَا عِلْمَ لَنَا إِلَّا مَا عَلَّمْتَنَا إِنَّكَ أَنْتَ
الْعَلِيمُ الْحَكِيمُ

صدق الله العظيم

سورة البقرة الآية 32

Dedication

To my mother..... Awadeyah

To my fatherMahdi

To my daughters..... Rahaf& Ragad

.....To my sisters ... and my brother

...To all friends and teachers in my life

...To all people making my life better

Acknowledgement

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Abstract

This study was carried out among traffic policemen in Khartoum state during the period between Januarys to May 2009, the study aimed at assessing the cytological changes in sputum smears taken from traffic policemen. Cytological specimens of sputum were taken from 150 individuals exposed to traffic pollution (cases) and 150 not exposed to traffic pollution (controls).

Early morning sputum specimens were collected and processed by the conventional method of sputum cytology and stained by Papanicolaou staining method and examined microscopically. Inflammatory cells infiltrate were detected among 41 (27.4%) from cases and 18 (12.0%) from controls. This finding documented the role of traffic pollution as a risk factor for the increase of the inflammatory cells $P < 0.002$.

Few Metaplastic cells were detected among 44 (29.3%) from cases and 19 (12.6%) from controls. Numerous metaplastic cells were detected among 14 (9.3%) from cases and 7(4.7%) from controls. These indicated that traffic pollution is an important factor for the increase in the metaplastic cells in sputum smear $P < 0.0001$. Dysplastic cells were detected among 7 (4.6%) of the cases and 2)1.3%) of the controls. These indicated that traffic pollution is factor for the increase of the dysplastic cells in sputum smear $P < 0.0001$. In conclusion, traffic pollution can cause cytological changes in lung epithelial cells which can be identified by sputum cytology; sputum cytology is simple and convenient method in the diagnosis and assessment of pathological conditions of the respiratory tract. In view of these findings, we recommend the application of sputum cytology as a suitable method for the assessment of individuals who are at risk of developing lung cancer.

أجريت هذه الدراسة على رجال شرطة المرور في ولاية الخرطوم خلال الفترة من يناير حتى مايو 2009م، هدفت الدراسة إلى معرفة السمات الخلوية لقشع رجال شرطة المرور. تم أخذ عينات القشع من 150 شخصاً معرضين للتلوث المروري (عينات دراسية) و 150 شخصاً غير معرضين للتلوث المروري (عينات تحكيمية).

جمعت عينات القشع في الصباح الباكر وتمت معالجتها بالطريقة التقليدية المستخدمة لعينات القشع ثم صبغت بطريقة بابانيكولا لعلم الخلايا وتم فحصها مجهرياً.

ظهرت الخلايا الإلتهابية المرتشحة في 41 (27.4%) من عينات الدراسة و 18 (12%) من العينات التحكيمية. هذا يشير إلى أن التلوث المروري عامل يزيد من ظهور الخلايا الإلتهابية، وكان ذلك ذا دلالات احصائية. اكتشفت الخلايا المتحولة البسيطة في 44 (29.3%) من عينات الدراسة و 19 (12.6%) من العينات التحكيمية. اكتشفت الخلايا المتحولة المتعددة في 14 (9.3%) من عينات الدراسة و 7 (4.7%) من العينات التحكيمية. هذا يشير إلى أن التلوث المروري عامل مهم يزيد من ظهور الخلايا المتحولة في شرائح خلايا القشع، وكان

ذلك ذا دلالات إحصائية. اكتشفت الخلايا السيئة النمو في 7 (4.6%) من عينات الدراسة و 2 (1.3%) من العينات التحكيمية. هذا يشير إلى أن التلوث المروري عامل يزيد من ظهور الخلايا السيئة النمو في شرايح خلايا القشع ، وكان ذلك ذات دلالات إحصائية .

في نهاية الدراسة خلصنا إلى أن التلوث المروري يمكن أن يتسبب في ظهور التغيرات الخلوية في الخلايا الظهارية للرئة والتي يكشف عنها بواسطة خلايا القشع. خلايا القشع سهلة وبسيطة يمكن استخدامها في تشخيص ومتابعة الحالات المرضية بالجهاز التنفسي.

بناءً على نتائج هذه الدراسة نوصي بتطبيق الدراسة الخلوية للقشع كطريقة مثلى لمتابعة الأفراد المعرضين للإصابة بسرطان الرئة .

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