

Dedication

***To those people who gave me
strength with patient,
faith with hope***

Love

Wisdom

Peace

To the greatest teacher

Father

To the kindest woman

Mother

To the stars on my life

brothers & sisters

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Abstract

This is a case control study conducted in Khartoum state during the period from April 2006 to October 2007. The study aimed to assess the industrial hazard among workers in printing industry (primary aromatic amines), which induce bladder cancer, and detecting the cellular changes associated with, using Pap stain.

150 urine cytological specimens were collected, 100 specimens were collected from printing industry workers which divided into two groups, the first group samples were collected from workers who were in direct contact with printing ink such as printing technicians and the second group samples were collected from workers who were not in direct contact with printing ink including other occupations inside the printing industry, such as book binders, packaging workers, photographers, etc, (cases). And 50 urine specimens were collected from non-printing industries workers (controls). This urine samples processed and microscopically examined. The cytological smears revealed the following findings:

Many superficial squamous cells were found in 24 (24%) specimens, all of them from case group. Most of specimens showed dense inflammatory infiltrate and the chronic inflammatory cells detected in 19 (19%) of the case group and in 6 (12%) of control group. 5(5%) of the cases showed acute inflammation, with 0 (0%) of control group. Other cells including basal and Para basal cells, umbrella cells detected in 29 (29%) samples all of them from case group. Cells with dysplastic feature detected in 5 (5%) specimens from the case group with P-value (0.028), no similar finding in control group. The result was only significant at the 5% level for the presence of cells with dysplastic feature among workers in direct contact with printing ink.

اجريت هذه الدراسة في ولايه الخرطوم في الفتره من يونيو 2006- اكتوبر 2007. تهدف الدراسة لتحديد اثر المخاطر الصناعيه (الامينات العطريه الاوليه المكونه لحبر الطباعة) علي عمال شركات الطباعة كمسبب للتحويلات السرطانيه في المثانه و تحديد التغيرات في النمط الخلوي (في الجهاز البولي باستخدام طريقه صبغ خلويه (بابا نيكولاو

تم جمع 150 عينه للدراسه, خصصت منها 100 عينه كعينه اختبار و قسمت لمجموعتين, مجموعه للعمال الذين علي احتكاك مباشر بالحبر كفنيي الطباعة واخري للذين ليس لهم احتكاك مباشر بالحبر و تشمل الوظائف الاخري من جمع , تطبيق, تغليف و تصوير الخ... وخصصت 50 عينه كعينات ضابطه. تمت معالجه العينات و فحصها مجهريا لتحديد التغيرات السرطانيه في النمط الخلوي.

تم تحديد 24 (24%) عينه من عينات الدراسة تحتوي علي العديد من الخلايا الطلائيه الحشفيه؛ السطحيه, و لم يتم تحديد العديد منها في العينات الضابطه . تم تحديد خلايا التهابيه مصحوبه بخلايا لخري في 29(29%) عينه من عينات الدراسة, 19(19%) منها خلايا التهاب مزمن و 5 (5%) التهاب حاد. تم تحديد 6 (6%) من العينات الضابطه تحتوي علي خلايا التهاب مزمن ولم يتم تحديد اى خلايا التهاب حاد في العينات الضابطه

تم تحديد تغيرات سرطانيه في 5(5%) حالات في عينة الدراسة (البول) و لم يتم تحديد وجود اى حاله في العينات الضابطه. و هذا يشير الي ان التعرض لحبر الطباعة هو مسبب اساسي للتغيرات السرطانيه في النمط الخلوي للمثانه, و هذه النتائج ذات دلالة احصائيه عند مستوي

الدلال :0.028 p.value

List of abbreviations

4-ADP	4-Aminodiphenyl
DPX	Disterene Plastic Cyzer Xylene
EMAS	Employment Medical Advisory Service
EA50	Eosin Azure 50
FNAC	Fine Needle Aspiration Cytology
OG6	Orange G6
H and E	Haematoxylin and Eosin
Pap stain	Papnicolaou stain
SPSS	Statistical Packages for Social Sciences

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