

# **Dedication**

To.....

My father.....who  
worked hard for us.

To.....

My mother.....who  
taught me

How I could be human

To.....

My beloved brothers and sister

To.....

The people, whom I love, respect and  
appreciate

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# Abstract

This is analytical case-control study carried out in Khartoum state during the period from December 2009 to March 2010, the study aimed at determining the best fixative agent for the urine samples. Specimens were taken from cigarettes smokers for identification of cellular changes by using Papanicolaou method. Three hundred urine smears were collected randomly from men. Of whom 150 were continually exposed to cigarette smoking for more than 10 years and 10 cigarettes per day, and the remaining 150 were taken from apparently healthy individuals (non tobacco users).

The cytological assessment among study group revealed the following findings: fixation with 95% ethyl alcohol found that, the mean of nucleus stain was 3.4800 and 3.6333 for cytoplasm stain. In cytoRich fixative the mean of nucleus stain was 5.9433 and for cytoplasm stain was 5.9533. Esposti's fixative was the higher value for mean with 6.4433 for nucleus stain and 6.4067 for cytoplasm stain. In regard to the cytological changes, acute inflammatory changes were detected in (38) of smokers, and (6) of non-tobacco users, and this was found to be statistically highly significant ( $P < 0.0001$ ).

In conclusion of this study, the Esposti's fixative is a good fixative and cytoRich fixative was moderate fixative and 95% ethyl alcohol was poor fixative for the urine cells. Also the study found relation between smoking and acute inflammatory cells in urine.

## النتائج

أجريت هذه الدراسة التحليلية الجزئية في ولاية الخرطوم في الفترة من شهر ديسمبر إلى شهر مارس للعام 2010، هدفت الدراسة لتحديد المثبت الأحسن لعينات البول عند مدخني السجاير وتحديد النمط الخلوي للبول عند مدخني السجاير باستخدام صبغة بابا نيكولا

و قد جمعت ثلاثمائة من عينات البول عشوائيا من الرجال . 150 مدخنين بشرط أن يكونوا مدخنين لمدة 10 سنوات على الأقل و 10 سيجارات في اليوم، و 150 المتبقيّة من الأفراد الأصحاء (غير المدخنين).

وأظهرت الدراسة و التقييم الخلوي على أن متوسط مثبت 95% ايثايل الكحول عبارة عن 3.4800 لصبغة النواة، و 3.6333 بالنسبة لصبغة السيتوبلازم .وأما مثبت السايثوريتش فإن قيمة المتوسط بالنسبة لصبغة النواة هي 5.9433 وصبغة السيتوبلازم فقد حددت ب قيمة 5.9533 .و بالنسبة لمثبت الإيوسنس فقد كان المتوسط ذات قيمة مميزة لشكل ونمط الخلايا إذ وجد ب قيمة 6.4433 لشكل . وصبغة النواة ، وفي صبغة السيتوبلازم فقد كان ب قيمة 6.4067 .

ومن نهج الدراسة أثبت أن التدخين عامل مؤثر للإلتهابات الحادة، حيث وضحت الدراسة على وجود 38 حالة التهابية من المدخنين، و 6 حالات من الغير مدخنين. والتي كانت ذات دلالة إحصائية عالية (بي. >0.0001).

وختاما لهذه الدراسة ، مثبت الإيوسنس هو المثبت الأفضل لشكل ونمط الخلايا لصبغة النواة والسيتوبلازم لعينات البول.وأما بالنسبة لمثبت السايثوريتش فهو مثبت متوسط القيمة لظهور شكل ونمط الخلايا بالصورة المتوسطة . وأخيرا فقد أظهرت الدراسة على أن مثبت 95% ايثايل الكحول هو . أضعف مثبت لخلايا البول .

. وأيضا أظهرت الدراسة على وجود علاقة طردية بين المدخنين والالتهابات الحادة في مجرى البول

## Contents

| NO                                      | Subject   | Page |
|---|---|------|
|   | Dedication                                      | I    |
|   | Acknowledgement                                 | II   |
|   | Abstract (English )                             | III  |
|   | Abstract (Arabic )                              | IV   |
|   | List of contents                                | V    |
|   | List of Tables                                  | IX   |
|   | List of microphotographs                        | X    |
| <b>Chapter (1) Introduction</b>         |   |      |
| 1                                       | Introduction                                    | 1    |
| <b>Chapter (2) Review of literature</b> |   |      |
| 2-1                                     | Scientific background:                          | 5    |
| 2.1.1                                   | Normal histology and cytology of urinary tract  | 5    |
| 2.1.2                                   | Cytology of normal urine                        | 6    |
| 2.1.3                                   | Normal urothelial cells                         | 6    |
| 2.1.4                                   | Cytological change of urinary tract             | 7    |
| 2 .1.4.1                                | Inflammatory processes within the urinary tract | 7    |
| 2 .1.4.1.1                              | Bacterial infection                             | 7    |
| 2 .1.4.1.2                              | Viral infection                                 | 7    |
| 2 .1.4.1.3                              | Metazoan parasite:                              | 8    |
| 2 .1.4.2                                | Non-infective cystitis                          | 8    |
| 2 .1.4.3                                | Metaplasia                                      | 9    |

|             |  |    |
|-------------|--|----|
| 2 .1.4.3.1  | Cystitis glandular   | 9  |
| 2 .1.4.3.2  | Squamous metaplasia  | 9  |
| 2 .1.4.3.3  | Adenomatous metaplasia (also known nephrogenic adenoma)    | 9  |
| 2 .1.4.4    | Dysplasia of urothelium                                    | 10 |
| 2 .1.4.4.1  | Mild dysplasia   | 11 |
| 2 .1.4.4.2  | Severe dysplasia   | 11 |
| 2 .1.4.5    | Malignant lesions  | 11 |
| 2 .1.4.5.1  | Papillary tumors   | 11 |
| 2 .1.4.5.2  | Papillary transitional cell carcinoma                      | 12 |
| 2 .1.4.5.3  | Transitional cell carcinomas                               | 21 |
| 2 .1.4.5.4  | Adenocarcinoma   | 12 |
| 2 .1.4.5.5  | Squamous cell carcinoma of the bladder                     | 13 |
| 2.1.5       | Bladder cancer   | 14 |
| 2.1.5.1     | World health organization classification of bladder tumors | 16 |
| 2.1.5.1.1   | Epithelial tumors  | 16 |
| 2.1.5.1.2   | Non epithelial tumors                                      | 16 |
| 2.1.5.2     | Risk factor  | 16 |
| 2.1.5.2.1   | Smoking  | 16 |
| 2.1.5.2.1.1 | Cigarette smoking  | 17 |
| 2.1.5.2.2   | Industrial chemicals                                       | 18 |
| 2.1.5.2.3   | Age  | 18 |
| 2.1.5.2.4   | Race   | 18 |
| 2.1.5.2.5   | Sex  | 18 |
| 2.1.5.2.6   | Chemotherapy and radiation therapy                         | 18 |

|   |   |           |
|---|---|-----------|
| 2.1.5.2.7                                 | Chronic bladder inflammation                    | 19        |
| 2.1.5.2.8                                 | Personal of family history                      | 19        |
| 2.1.5.2.9                                 | Exposure to arsenic                             | 20        |
| 2.1.5.2.10                                | Bladder birth defect                            | 20        |
| 2.1.5.3                                   | Diagnosis                                       | 20        |
| 2.1.5.3.1                                 | Exfoliative cytology                            | 20        |
| 2.1.5.2.1                                 | Sampling technique                              | 22        |
| 2.1.5.2.1.1                               | Urine   | 22        |
| 2.1.5.2.1.2                               | Voided urine                                    | 22        |
| 2.1.5.2.1.3                               | Catheterized urine                              | 23        |
| 2.1.5.2.1.4                               | Bladder washes                                  | 23        |
| 2.1.5.2.1.5                               | Urethral and renal pelvic brushings and washing | 24        |
| 2.1.5.2.1.1.1                             | Fixation  | 24        |
| 2.2                                       | objectives                                      | 28        |
| <b>Chapters (3) Materials and methods</b> |   |           |
| 3.1                                       | Study design                                    | 29        |
| 3.2                                       | Study population                                | 29        |
| 3-3                                       | Sample size                                     | 29        |
| 3- 5                                      | Collection of specimens                         | 29        |
| 3-6                                       | Sample processing                               | 29        |
| 3-7                                       | Staining procedure                              | 30        |
| 3-8                                       | Assessment of results                           | 32        |
| 3-9                                       | Ethical considerations                          | 32        |
| 3-10                                      | Statistical analysis                            | 32        |
| <b>Chapter (4) Results</b>                |   | <b>33</b> |

|  |   |           |
|--|---|-----------|
|  | <b>Chapter (5) Discussion</b>                         | <b>46</b> |
|  | <b>Chapter (6) Conclusion and<br/>Recommendations</b> | <b>49</b> |
|  | <b>Chapter (7) References</b>                         | <b>50</b> |
|  | <b>Appendix</b>                                       | <b>56</b> |
|  | <b>Questionnaire</b>                                  | <b>57</b> |

## **List of Tables**



| <b>Page</b> | <b>Title</b>   | <b>Table</b> |
|-------------|--|--------------|
| 35          | Shows means of nucleus and cytoplasm stain of urine cells with different fixatives | 1            |
| 36          | Shows the quality of nucleus fixation with 95% ethyl alcohol.                      | 2            |
| 37          | Shows the quality of cytoplasm fixation with 95% ethyl alcohol                     | 3            |
| 38          | Shows the quality of cytoplasm fixation with cytoRich fixative.                    | 4            |
| 39          | Shows the quality of nucleus fixation with cytoRich fixative.                      | 5            |
| 40          | Shows the quality of nucleus fixation with eposites fixative.                      | 6            |
| 41          | Shows the quality of cytoplasm fixation with eposites fixative.                    | 7            |
| 42          | Shows relation between smoking and acute inflammation in Urine.                    | 8            |
| 43          | Shows relation between age and acute inflammation.                                 | 9            |

## **List of photo microphotographs**

| <b>Page</b> | <b>Title</b>   | <b>Photo</b> |
|-------------|--|--------------|
| 44          | Show normal epithelial cells in urine by eposites<br>fixative.         | 1            |
| 44          | Show normal epithelial cells in urine by cytoRich<br>fixative          | 2            |
| 45          | Show normal epithelial cells in urine by 95% ethyl<br>alcohol fixative | 3            |
| 45          | Show cells acute inflammation effected from smoking                    | 4            |