Assessment Hormonal Disorders of Women in Oral and Vaginal Changes

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Abstract

Hormonal deficiencies may contribute to the development of abnormalities of oral and vaginal tissues, such as pain, desquamation, recurrent oral, vaginal ulceration and delayed post-surgical healing .This study was done to determine the differences of cell activity in oral and vaginal mucosa .

A total of 200 females of different age groups were used in this study Oral smears were obtained from the buccal mucosa by scraping the area gently using a wooden tongue depressor while vaginal smears were obtained from the proximal portion of the lateral wall of the vagina using Ayre's spatula by scraping the area gently . In order to find to change in mucosa during different phases of menstrual cycle .

In two groups the present results revealed that vaginal cytological patterns of each group is similar to the oral cytological pattern with some differences .

In conclusion significant correlation between the hormonal fluctuations in woman and the degree of maturation of their oral epithelium was revealed in this study .

Keywords: *Oral discomfort; Vaginal discomfort, clinical aspects; vaginal cytological ; toxicity.*

Introduction

The oral mucosa member itself is composed of two layers the Lamina propria and the surface epithelium . Abasement membrane separates the Lamine propria from the stratified squamous epithelium [1] while the genital tract in women consists of vagina, uterus, fallopian tubes and ovaries, the vagina is a fibro muscular tube consisting of inner mucosa and other muscular layer which leads from the uterus to the Vulua [2,3] .

The periodic and cyclical shedding of progestasional endometrium accompanied by loss of blood . It occurs approximately 28 days intervals period of cycle normally range from twenty-five to thirty-five days [4,5,6].

Cyclical changes involve the hypothalamus, the pituitary gland, the ovaries, the endometrium and the secondary sex organs [6] .

The oestrogen secreted by the granulosa and cells of the ovarian follicles and subsequently by the same cell from the corpus luteum [6,7] .

The progesterone is an endogenous steroid and sex hormone involved in menstrual cycle – it belongs to a group of steroid hormones [8,9] .

Material and Method

The correction of samples started from January to December 2019 from 200 women non-pregnant not take contraceptive pills, with regular menstrual cycle the age range between 18-30 years old .

Oral smears were obtained from the buccal mucosa by scraping the area gently using a woodern tongue depressor. While vaginal smears were obtained from the proximal protion of the lateral wall of the vagina using Ayre's spatula by scraping the area gently .

Women are divided into two-group .

Group I: Females having a normal and regular menstrual cycle from samples were collected the time period from day 10-18 this time period revealing a predominance of oestrogen influence . Total No. of this group (100) .

Group II: Females having a normal and regular menstrual cycle from whom samples were collected on any day during the time period revealing a minimal oestrogen influence and predominant progesterone effect .Total No. of this group (100) .

Each subject required to complete aquestionauire which established name, age, occupation, address, smoking habits, day of menstrual cycle, present medical history, past medical history and hormone therapy .

Then all smears were prepared promptly and fixed immediately because exfoliated cells degenerate rapidly . smears are fixed in 95% ethylalcohol and them stained heamotoxyline and easine method .

Then prepared smears were screened and evaluated for female hormonal effect the karyopyknotic index K.P.I was used for evaluation of oestrogen hormone effect while crowded index Cr.I for progesterone hormone effect .

Statistical Analysis

The result were presented as mean ± S.D (Standard deviation) for all group .

The result were analyzed by using students t-test and correlation coefficient test with $P < 0.005$ as the limit of significance.

Table (1) : Age (mean, range) and standard deviations of women groups .

Group	Total	Age (years) Mean + S.D	Range
I	100	27.02 + 6.12	18 – 30
II	100	24.23 + 6.82	18 – 30

Table (2) : Mean and standard deviations of K.P.I and Cr.I. of both oral and vaginal smears of each group of women .

Group	V.K.P.I.	O.K.P.I.	V.Cr.I.	O.Cr.I.
I	72.12+10.24	61.73+12.02	57.21+10.12	51.24+10.01
II	45.21+10.44	41.91+10.10	78.35+28.72	67.32+27.01

Table (3) : The coefficient correlation factors (r), t and probabilities for two group of women .

Group I (n=100)		Group I (n=100)
V.K.P.I.	r = 0.92	r = 0.82
	t = 13.82	t = 19.27
O.K.P.I.	P < 0.001	P < 0.001
V.Cr.I.	r = 0.92	r = 0.98
	t = 16.24	t = 77.28
O.Cr.I.	P < 0.001	P < 0.001

Result

Oral and vaginal smears were studied on 200 women with normal and regular menstrual cycle, The use of oral and vaginal smears for the assessment of sex hormone activity is a very convent method which offers contain advantages over other techniques . It is cheap, doesn't hurt the patient .

The mean age and standard deviation for each group in shown in table(1).

The mean K.P.I. and Cr.I. of both oral and vaginal smears with their standard deviation for each group is shown in table (2) . The coefficient correlation factors (r), student's t-test and probabilities (p) for each group is show in table (3) .

The vaginal and oral smears presented contain difference .

1) Non based cells found in mouth smears .

2) Most of intermediate oral cells showed purple or deeply stained granules in their cytoplasm .

3) The similar between mouth cells with nuclei and the vaginal smears with nuclei common pykontic .

4) In vaginal smears the white blood cells more and rarely found in the oral smears .

Discussion

The research for comparing epithelium smears in oral and vaginal at different hormonal changes such as in variant phases of menstrual cycle .

It found the vaginal smears are important in study same change in oral smears which posses contain feature similar with vaginal [10] .

The study of effects oestrogenic and gonadotrophic hormones in females for treatment a menorrhea or other defects . If oestrogenic injected into castrated females the microscopic finding changes in keratin formation [10,11].

The cycle changes of oral mucusa during the course of a normal menstrual cycle of healthy women have been examine by different authors in the last few decades .

The alteration in cells of the oral cavity conciding with changes found in the vaginal smears thus reflecting the hormonal state of the menstrual cycle [10] .

The present study revealed that the oral smears which prepared from women during a predominance of oestrogen presented an increased number of superficial epithelial cells with pyknotic nuclei . The oral smears which prepared from women during a lower amount of oestrogen and a predominance of progesteron presented the presence of an increased number of intermediate epithelial cells, with a significant decrease in the number of superficial cells with pyknotic nuclei, therefore there is typical hormonal changes in buccal smears of the young women that corresponded with the stages of their menstrual cycle .

Conclusion

In conclusion significant correlation between the hormonal fluctuations in woman and the degree of maturation of their oral epithelium was revealed in this study . The mouth and vaginal epithelium show parallel variants in degree of maturation of this study during menstrual cycle .

The oral smears despite it's technical advantage can not replace the vaginal smears .

Ethical Clearance: The Research Ethical Committee at scientific research by ethical approval of both MOH and MOHSER in Iraq

Conflict of Interest: Non

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