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Republic of Uzbekistan, Bukhara, A. Navoi St., 1, e-mail: [info@bsmi.uz](mailto:info@bsmi.uz)***DRY EYE SYNDROME IN MENOPAUSAL WOMEN IN THE BUKHARA REGION**

**SUMMARY:** Epidemiological studies show an increase in the prevalence of dry eye syndrome (dry eye syndrome) with age and a higher incidence of the disease in women. It is assumed that a decrease in the level of androgens and other regulatory hormones has an important effect on the development of DED in women. The study aimed to determine the frequency of dry eye syndrome depending on age in women in the Bukhara region. **Material and methods:** 100 women were included in the study, and each patient had clinical manifestations of estrogen deficiency of varying severity. All patients underwent a Schirmer test and a Norn test using ophthalmic diagnostic strips. **Results:** In the first subgroup, mild DED was noted – 67%, moderate – 33% and severe degree was not detected. In the second and third subgroups, mild DED was mainly observed – 75% and 33%, moderate – 20% and 50%, severe – 5% and 17%, which was due to manifestations of ovarian decompensation. **Conclusion.** It was found that the frequency of meetings is especially high among women over 50 (60%). On the other hand, it should be considered that moderately severe and severe levels of dry eye syndrome were observed among women over 65 years of age (40%).

**Keywords:** dry eye disease, postmenopausal, Schirmer test and a Norn test

According to who demographics, the number of elderly people will increase significantly in the 21st century. Currently, the proportion of the elderly population in economically developed countries is about 20 percent and is expected to grow to 33 percent by 2050. An assessment of the sex ratio in the elderly population of the most densely populated countries in the world showed that Uzbekistan recorded the highest proportion of women for every 100 men aged 60 years and over (186). In modern societies, an increase in life expectancy causes health problems for the elderly population, including postmenopausal women, which accounts for 10% of the total number of women. The number of women is expected to increase to 25 million a year, reaching 47 million in 2020 and 1.2 billion women over 50 in 2030 [1]. Unlike other systems, the female reproductive system achieves optimal functional activity at the age of 16-17 years, when it is ready for reproduction; By the age of 45, reproductive function decreases, and by the age of 55, the hormonal function of the reproductive system decreases, and menopause begins, which is divided into the following stages: 1) transition to menopause (premenopausal), 2) menopause, 3) postmenopausal stage postmenopausal. Menopause is defined as the period from the appearance of the first climacteric symptoms (changes in the menstrual cycle, signs of estrogen deficiency) to two years after the last menstruation. Menopause transition (premenopause) is characterized by a gradual decrease in the follicular apparatus of the ovaries and a change in the level of hormones in the blood plasma. Premenopause is characterized by a number of changes in the hypothalamic-pituitary-ovarian system, namely a gradual decrease in the follicular apparatus of the ovaries and estradiol levels in the blood, and a gradual increase in the level of follicle-stimulating hormone in the blood [2, 3]. The median age of menopause in Central Asian women is 51 years [5].

QKS is detected in more than 67% of patients over the age of 50 who have consulted an ophthalmologist [4]. Since the tear film is a layer that protects the eye and breaks light, any deterioration of the tear film affects the quality of day and night vision. The main risk factors for the

Over the past week, you have noticed the following changes in your eyes						
	Always	Often	Sometimes	Rare	Never	
Increased sensitivity						
The feeling of having sand in the eye	4	3	2	1	0	
Pain or inflammatory conditions in the eye	4	3	2	1	0	
Blurred vision	4	3	2	1	0	
Visual acuity deterioration	4	3	2	1	0	
If you have vision problems, within a week you will not be able to do any of the following						
	Always	Often	Sometimes	Rare	Never	
Reading books	4	3	2	1	0	
Driving at the night	4	3	2	1	0	
Working with the computers	4	3	2	1	0	

development of QKS are age (15.3% of patients over 50 have at least three signs of QKS) and hormonal imbalance (thyroid diseases, menopause). Among the many causes, menopause syndrome accounts for 48% and ranks first among all QKS etiologies [6]. There are receptors on the mucous membrane of the tear gland and eye that respond to changes in hormone levels. Pre-clinical studies have shown that the tear gland has a high concentration of estrogen receptors [7].

The purpose of the study: to determine the frequency of the appearance of dry eye syndrome with age in women in the Bukhara region.

Materials and research methods: the study involved 100 women, with clinical manifestations of different levels of estrogen deficiency in each patient. Based on age, all patients were divided into three subgroups: the first 30 women were 40-60 years old (50.2±1.3 years old), the second 40 women were 60-70 years old (63±1.1 years old), and the third 30 women were over 70 years old (73.5±1.2 years old). Evaluation of dry eye symptoms was done using the "eye surface disease index" (OSDI) survey (fig.1). All patients underwent control using the Schirmer test and norm test ophthalmic diagnostic tests. The women examined were under the supervision of a gynecologist without hormone replacement therapy. Criteria for inclusion in the study included: ovarian failure with clinical manifestations of QKS. Statistical processing was carried out using non-parametric research methods for existing groups. The study used styling test coefficients, with the p<0.05 significance level perceived as reliable.

Figure 1

Eye surface disease index (OSDI) survey

Watching TV	4	3	2	1	0		
<b>Have your eyes experienced discomfort during the past week in one of the following situations</b>							
	Always	Often	Sometimes	Rare	Never		
In windy weather	4	3	2	1	0		
In dry atmospheric air	4	3	2	1	0		
Working in an air-conditioned environment	4	3	2	1	0		
Groups	Age	Stages of dry eye syndrome					
		Low stage,	%	Middle stage	%	High stage	%
First	40-55	20 / 40	67	10/20	33	0	0
Second	55-70	30/ 60	75	8/16	20	2/4	5
Third	High from 70	10/ 20	33	15/30	50	5/10	17

**Results.**

Patients were divided into three weights by OSDI score. In a group with a mild form of the disease, the osdi score is low (0-20 points), in a group with a moderate form of the disease, the average osdi score (21-45 points), and in a group with severe illness, the high OSDI score (46-100 points).

The results found a significant correlation between the menopause stage and the age of the patients (median age  $60.7 \pm 2.5$  years). In the first age group (patients aged 40-55 years), menstrual cycles and mild signs of estrogen deficiency remained. In the second subgroup (patients aged 55-60 years), a decrease in ovarian function and moderate clinical signs of "dry eye" syndrome were observed. Clinical symptoms were directly related to estrogen deficiency symptoms: 20 of 30 women aged 40-55 (67 %) had mild dry eye syndrome, and the remaining 10 (33%) had moderate dry eye syndrome. No severe dry eye syndrome was observed in this group of women. In particular, corneal xeroses have been observed in women aged 70 and older due to moderate dry eye syndrome and ovarian dysfunction (table. 1).

**Table 1**

Manifestation of dry eye syndrome among women who participated in the study, (n=100)

The correlation coefficient for women with mild symptoms of ovarian dysfunction was 0.60 ( $p<0.05$ ), 0.68 for the average and 0.84 ( $p<0.05$ ) for the severe.

**Conclusion.**

Dry eye syndrome in all women is characterized as a subjective feeling of discomfort directly related to the severity of estrogen deficiency symptoms. This is especially common in women aged 50 and over (60%). On the other hand, moderate to severe dry eye syndrome occurs in women aged 65 and older (40 %) and this condition leads to a decrease in the quality of life of women and in working

capacity. For this reason, in addition to gynecological examinations in women during menopause, ophthalmological examinations should also be planned.

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