

Anamnesis of Patients with Rosacea Associated with Demodex Mites

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ABSTRACT

Demodex mites are representatives of the saprophytic flora of the human face skin. 90 patients with rosacea were examined. They were divided into two groups depend on a presence of Demodex mites. Then provocative factors were studied based on an anamnesis and clinical examination. The influence of the emotional factor, including the presence of a large number of stressful situations, inadequate nutrition, exacerbation of concomitant diseases, and the presence of a second skin type of the skin according to Fitzpatrick was statistically significant in patients with rosacea with Demodex mites.

Keywords: Demodex mites, rosacea, skin phototypes, predisposing factors. Introduction

INTRODUCTION

Rosacea is one of the most common dermatological nosologies, with direct damage to the skin, mostly the face area. Until now, the etiopathogenetic causes of the development of these diseases have not been fully clarified, but there are many theories. One of them is the involvement of the saprophytic flora of the facial skin in the pathological process (Demodex mites). Demodex mites are the most common ectoparasites of humans, inhabiting the hair follicles and excretory ducts of the sebaceous glands [1]. In spite of the fact that more than 100 species of Demodex mites (class Arachnids, subclass Acarina) are known, only two species parasitize on human skin – Demodex folliculorum longus and Demodex folliculorum brevis [2, 3]. Insemination occurs in childhood and by the average age 80-100% of the population become carriers of the mites [2].

MATERIALS AND METHODS

A total of 90 respondents aged 18 to 79 years were surveyed (mean age 30.0 ± 11.9). There were 18 persons in the male sex and 72 in the female.

According to the study method, the patients were divided into 2 groups. Group I included patients who had detected Demodex mites in an amount of more than 5 individuals per 1 cm^2 , the second group included patients who had a negative analysis for the presence of Demodex mites.

The diagnosis of rosacea was established on a primary medical assessment and it was based on a clinical picture of the disease. The type of skin was determined on a primary intake, using the classification proposed by B. Fitzpatrick (1975). The presence of Demodex mites was confirmed by Standardized Skin Surface Biopsy (SSSB). The patients' faces were cleaned with water before the test. Then cyanoacrylate glue was dropped on a marked 1 cm^2 area on a glass slide. The adhesive bearing surface of the glass slide was applied for 1 min on the places with the greatest accumulation of sebaceous glands – interbroken area, wings of nose, chin. In the same time it was places with the highest number of Demodex mites. Then the material was microscopies. The magnifications of the microscope were $\times 40$ and $\times 100$. Mite infestation was at least 5 individuals per 1 cm^2 of skin.

RESULTS

An analysis of the conjugation of provoking factors with the presence of Demodex ticks on

the skin of the face of patients with rosacea is shown in Figure 1.

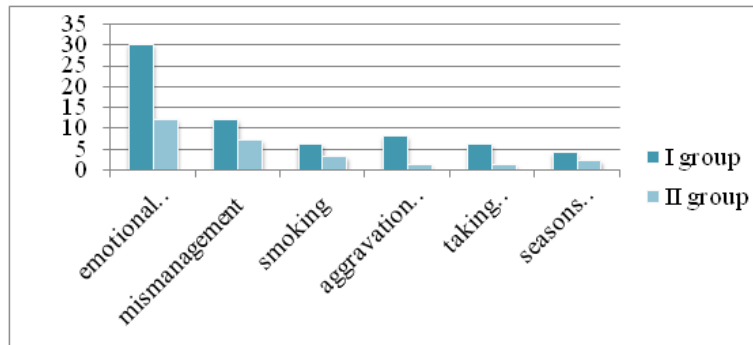


Figure1. Frequency of occurrence of provoking factors in patients of I and II groups

One of the trigger factors for the development of rosacea are environmental influences, which are manifested in increased insolation, the effects of high and low temperatures, wind, and a sharp change in climate when moving from one room

to another. Patients of groups I and II were asked to determine in which of the seasons of the year the clinical picture of their disease worsens or more often a relapse occurs after the achieved remission (Figure 2).

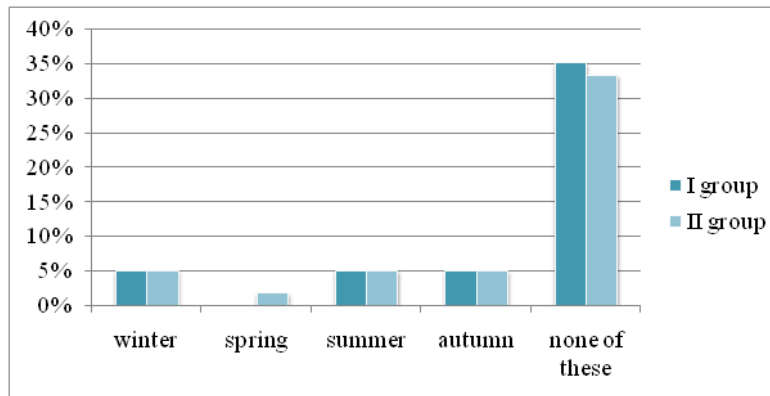


Figure2. Deterioration of the clinical course of the disease depending on the season

When analyzing the types of skin included in the study, it was found that all participants had the first, second and third phototypes. Moreover, the first skin phototype in all three groups was established in an equal number of respondents (1.1%). The majority of patients with rosacea, included in groups I and II, had a second phototype (25.6% and 27.8%, respectively). The

third phototype among patients was less common. It had 6.7% of patients in group I and 4.4% in group II. At the same time, in the third group, approximately the same number of subjects with the second and third phototypes were observed. The second phototype was recorded in 17.8% of subjects, the third phototype - in 14.4% (Figure 3).

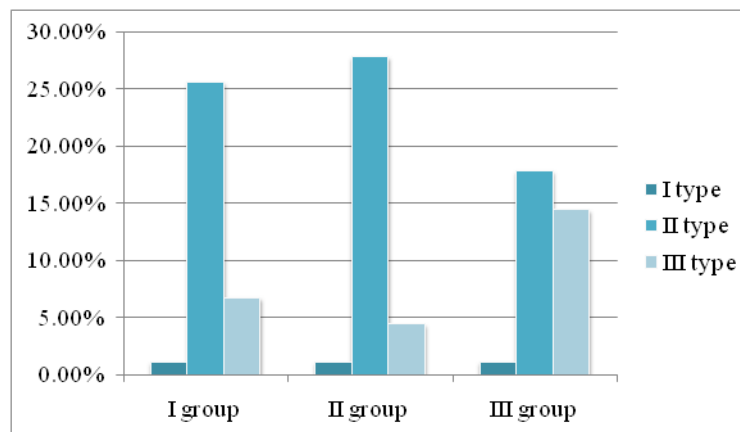


Figure3. Skin phototypes

DISCUSSION

Rosacea (L 71) is a chronic dermatosis characterized by a facial skin lesion in the form of erythema and papulopustular elements. To date, in the practice of a dermatovenereologist, the disease of rosacea remains one of the most common pathologies. Rosacea affects mainly people aged 30-50 years. This dermatosis affects about 14% of women and 5% of men with a light skin phototype [4].

In a survey on the primary admission of patients, special attention was paid to possible provoking factors of rosacea development. All possible provoking factors were divided according to the principle of pathogenetic influence on the following groups: emotional influences (including stress); food with a predominance of hot, salty, hot, carbonated and alcoholic beverages; tobacco smoking; exacerbation of concomitant diseases (diseases of the gastrointestinal tract, endocrine disorders, carcinoid syndrome, mastocytosis); use of drugs (vasodilators, nicotinic acid, Ca-channel blockers, drugs that reduce cholesterol, external hormonal ointments); change of season.

When comparing the data of groups I and II, factors statistically significantly more frequent in patients with Demodex mites were identified. Statistical processing of data revealed that the detection frequency of Demodex mites is significantly different depending on the factor triggering the development of the disease ($p < 0.05$). All cases of detection of mites were recorded at the following predisposing factors: emotional influences, including stress ($n=30$; 100%); inadequate nutrition ($n=12$; 40%); exacerbation of concomitant diseases ($n=1$; 3.3%).

There were no statistical differences in the exacerbations of diseases, depending on the season and seasonality. An equal number of respondents in groups I and II (5%) noted deterioration of the process in winter, summer and autumn, a small number of participants included in group II (1.7%) said that the process often recurs in the spring. The majority of respondents do not observe the connection with

the time of the year, so an equal number of people in the two groups (35% and 33.3% respectively) responded.

Analysing skin photo types the almost complete absence of the first (Celtic) skin type according to Fitzpatrick is due to the geographical location of the territory in which the study is being conducted. The statistically significant prevalence of patients with rosacea I and II groups with a second skin phototype (25.6% and 27.8%, respectively) is probably due to the fact that the second skin phototype predisposes to the appearance of rosacea ($p < 0.05$). The least predisposed to the development of rosacea are people with a third phototype. The prevalence of the third type of skin in healthy volunteers (14.4%) is statistically significantly higher than in groups with rosacea patients ($p < 0.05$). These data suggest that the third skin phototype is less inclined not only to the appearance of rosacea, but also to the manifestation of the pathogenicity of Demodex mites.

CONCLUSION

Thus, in the course of the study, it was found that the influence of the emotional factor, including the presence of a large number of stressful situations, inadequate nutrition, exacerbation of concomitant diseases, and the presence of a second skin type of the skin according to Fitzpatrick was statistically significant in patients with rosacea with Demodex mites.

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