Seborrheic dermatitis (SD) is a chronic recurrent dermatosis that mainly develops in large skin folds of the body and scalp, manifested by erythematous-squamous and follicular papular-squamous rashes caused by activation of saprophytic microflora. Manifestation of oily seborrhea in the absence of adequate treatment brings patients not only physical but also mental suffering. Patients often have emotional lability, anxiety, in severe cases, a tendency to depression and suicide, social problems, as well as disharmony of interpersonal, family and intimate relationships [12, 14].

It is known that about 2-5 % of the world's population suffers from SD. The peak incidence occurs at the age of 20 to 50 years. Men get sick more often, and in puberty up to 25 % of morbidity is noted. SD has an acute or chronic course [15, 21]. In case of exacerbation of the pathological process in the scalp and body there is increased itching, the formation of erosive processes of the skin, exudation, the appearance of bumps in the ear folds, diffuse hair loss. Also in this case, the accession of secondary bacterial invasion is not excluded [13].

There is still no consensus on the etiology of SD. Modern practical medicine is based on the concept of the association of many risk factors as possible causes of development, progression and coexistence of multifactorial diseases - polymorbidity. The combined action of several risk factors per patient contributes to a significant increase in the risk of phenotypic manifestations of dermatosis [2, 17]. SD is considered multifactorial, including exogenous and endogenous determinants. These include hereditary predisposition, the presence of concomitant nosologies such as neurogenic and mental disorders, diseases of the gastrointestinal tract, immune and neuroendocrine systems in patients with SD by hereditary disintegration of the diencephalic part of the hypothalamus, which is responsible for regulating the functional state of endocrine organs through the pituitary gland and the level of opiate neuropeptides in the blood [9].
Hereditary factors and mechanisms of innate immunity in SD remain insufficiently studied. It is known that in patients with this pathology there is an increase in the formation of cyclooxygenase, proteins of the active phase of inflammation, anti-inflammatory cytokines, NO synthase [17]. Also, one of the biomarkers that can be used to detect diabetes and assess the prospects of its clinical course, can be used to determine the peptide of cathelicidin, which has antibacterial, antifungal and antiviral activity. The level of this compound increases with stress and damage to the skin of various origins [5].

The constitutional marker of SD is physique: overall body size, somatotype, degree of development and topography of subcutaneous fat. Overweight, short stature is one of the main risk factors for the development of this disease in different ethno-territorial groups. The pathogenetic link between abdominal obesity and SD is quite clear: the severity of skin manifestations in overweight patients is registered much more often than in normal weight patients [3]. Previous studies have examined individual predictors of clinical prognosis in patients with SD, and there are virtually no studies that would conduct a comprehensive analysis of clinical and anthropometric predictors, which would objectify the long-term prognosis for this category of patients. Therefore, in this paper it is planned to supplement the existing data by studying the features of the components of the somatotype and indicators of the component composition of body weight in patients with generalized fatty seborrheic dermatitis.

The purpose of the study is to establish and analyze the characteristics of somatotype components and indicators of the component composition of body weight in men and women with generalized fatty seborrheic dermatitis of varying severity.

Materials and methods

In accordance with this goal, a clinical-laboratory and anthropo-somatotypological examination of 40 men and 40 young women (25-44 years according to the age periodization of the WHO, 2015) patients with generalized fatty form of seborrheic dermatitis (GFSD) was conducted at the Department of Dermatology and Venereal diseases with a course of postgraduate education National Pirogov Memorial Medical University, Vinnytsya and the Military Medical Clinical Center of the Central Region.

The Bioethics Committee of the National Pirogov Memorial Medical University, Vinnytsya (Minutes № 10 of 26.11.2020) found that the studies did not contradict the basic bioethical standards of the Helsinki Declaration, the Council of Europe Convention on Human Rights and Biomedicine (1977), WHO regulations and Ukrainian law.

The diagnosis of SD was established on the basis of the subject’s complaints, life history and illness, examination of the face, scalp, torso and limbs with assessment of subjective and objective signs of the disease.

Evaluation of somatotype components (endomorphic, which characterizes the degree of development of adipose tissue; mesomorphic, which reflects the relative development of muscles and bone elements of the body; ectomorphic, which reflects the relative elongation of the human body and serves as a link between endomorphic and mesomorphic) according to the Heath-Carter scheme [6]. The absolute amount of fat, bone and muscle components of body weight was determined by the formulas of Matiegka J. [11]. In addition, the absolute amount of muscle tissue was determined by the American Institute of Nutrition (AIN) [18].

The control group consisted of similar indicators of practically healthy Ukrainian men (n=82) and women (n=154) of the same age group, which were selected from the database of the research center National Pirogov Memorial Medical University, Vinnytsya.

Statistical analysis of the results was performed in the license package “Statistica 6.0” using non-parametric evaluation methods. The reliability of the difference between the values between the independent quantitative values was determined using the U-Mann-Whitney test.

Results. Discussion

When comparing the value of the endomorphic component of the somatotype between healthy and GFSD men and/or women, no trends and significant differences in this indicator were found (Fig. 1).

The value of the mesomorphic component of the somatotype was significantly (p<0.05 in both cases) greater in women with mild (5,502±3,443 points) and severe (4,944±2,177 points) GFSD course compared with healthy women (3,766±1,324 points). This indicator in healthy men was significantly (p<0.001) higher (4,689±1,332 points) compared to women in the same comparison group (3,766±1,324 points) (Fig. 2).

The magnitude of the ectomorphic component of the

Fig. 1. The magnitude of the endomorphic component of the somatotype (FX) in healthy and SD patients of varying severity of men and women (score). In this and subsequent figures: 1 - healthy men; 2 - men with mild SD; 3 - men with severe SD; 4 - healthy women; 5 - woman patients with mild SD; 6 - women patients with severe SD; Mean - average value; Mean±SE - average value ± mean error; Means±SD - mean ± standard deviation.
Somatotypological parameters of the body in men and women with seborrheic dermatitis of varying severity

Compared with healthy men (38.67±7.20 kg), the magnitude of the muscle component of body weight by AIN was significantly (p<0.01-0.001) greater in men with mild (31.96±10.81 kg) and severe (34.54±10.45 kg) GFSD compared with healthy women (26.08±5.94 kg). This figure in healthy men (38.67±7.20 kg) and in men with mild (42.47±6.78 kg) and severe (45.18±13.38 kg) course of GFSD was significantly (p<0.01-0.001) higher than in women of similar comparison groups (respectively 26.08±5.94 kg, 31.98±10.81 kg and 34.54±10.45 kg) (Fig. 5).

The value of the bone component of body weight was significantly (p<0.01) higher in women with severe (8,887±1,091 kg) GFSD course compared with healthy women (8,237±1,586 kg). This figure in healthy men (11.01±1.30 kg) and in men with mild (11.03±1.20 kg) and severe (11.30±1.48 kg) course of GFSD was significantly (p<0.001 in all cases) higher than in women of similar comparison groups (respectively 8,237±1,586 kg, 8,432±1,620 kg and 8,887±1,091 kg) (Fig. 6).

The value of the fat component of body weight is significantly (p<0.01-0.05) lower in men with mild (8.634±2.944 kg) and severe (9.295±4.124 kg) dermatosis compared with healthy men (8.887±1,091 kg). The magnitude of the muscle component of body weight determined by Matiegka (MM) method was significantly (p<0.001-0.01) greater in men with mild (36.75±2.94 kg) and severe (39.43±8.93 kg) GFSD compared with healthy men (26.88±1.265 points) (Fig. 3).

The magnitude of the muscle component of body weight determined by the Matiegka method was significantly (p<0.05-0.01) greater in men with mild (37.59±5.21 kg) and severe (39.43±8.93 kg) GFSD compared with healthy men (34.22±5.88 kg). The magnitude of the muscle component of body weight was significantly (p<0.05-0.001) greater in women with mild (31.74±9.73 kg) and severe (33.70±7.94 kg) GFSD compared with healthy women (27.26±4.71 kg). This indicator in healthy men (34.22±5.88 kg) and in men with mild (37.59±5.21 kg) and severe (39.43±8.93 kg) course of GFSD was significantly (p<0.05-0.001) higher than in women of similar comparison groups (respectively 27.26±4.71 kg, 31.74±9.73 kg and 33.70±7.94 kg) (Fig. 4).

The magnitude of the muscle component of body weight by AIN (MA) in healthy and SD patients of varying severity men and women (kg).

The value of the fat component of body weight was significantly (p<0.01-0.05) lower in men with mild (8.634±2.944 kg) and severe (9.295±4.124 kg) dermatosis compared with healthy men (8.887±1,091 kg). The magnitude of the muscle component of body weight determined by Matiegka (MM) method was significantly (p<0.001-0.01) greater in men with mild (36.75±2.94 kg) and severe (39.43±8.93 kg) GFSD compared with healthy men (26.88±1.265 points) (Fig. 3).

The magnitude of the muscle component of body weight determined by the Matiegka method was significantly (p<0.05-0.01) greater in men with mild (37.59±5.21 kg) and severe (39.43±8.93 kg) GFSD compared with healthy men (34.22±5.88 kg). The magnitude of the muscle component of body weight was significantly (p<0.05-0.001) greater in women with mild (31.74±9.73 kg) and severe (33.70±7.94 kg) GFSD compared with healthy women (27.26±4.71 kg). This indicator in healthy men (34.22±5.88 kg) and in men with mild (37.59±5.21 kg) and severe (39.43±8.93 kg) course of GFSD was significantly (p<0.05-0.001) higher than in women of similar comparison groups (respectively 27.26±4.71 kg, 31.74±9.73 kg and 33.70±7.94 kg) (Fig. 4).

The magnitude of the muscle component of body weight by AIN (MA) in healthy and SD patients of varying severity men and women (kg).
Compared with healthy men (10.96±3.50 kg), the value of the fat component of body weight was significantly (p<0.05) lower in women with mild (9.07±3.934 kg) GFSD course compared with healthy women (10.77±3.40 kg) (Fig. 7).

The most complete idea of the general constitution of man gives somatotype (private bodily constitution). In studies by Johansson E. K. et al. [10] revealed a natural increase in the prevalence of dermatoses from asthenic somatotype to hypersthenic (Pinier indices, metric), as well as from the mesomorphic type of physique to endomorphic (mesoendomorphic index). The prevalence of some degrees of atopic dermatitis, pyoderma, eczema revealed the same pattern as for dermatitis in general: the lowest prevalence of all forms was found in people with asthenic and mesomorphic constitution, the highest in hypersthenic and endomorphs. Differences in the prevalence of certain forms of disease in extreme somatotypes in all indices are statistically significant (p<0.05). In addition, the prevalence of more severe forms of the pathological process in asthenics and hypersthenics is statistically significant (p<0.05) differs from the prevalence of these forms in the population. Such differences were not found in the subjects of meso- and endomorphic constitution.

In a study by Abuabara K. et al. [1] found that men with atopic eczema, with a general age-related predisposition to endomorph, in contrast to healthy people, are characterized by increased fat deposition in the upper body and shoulders.

A. V. Gara [8] established criteria and features of atopic dermatitis in Podillia adolescents, based on the analysis of anthropo-somatotypological indicators. In patients with atopic dermatitis, compared with the control group, lower values of the endomorphic component of the somatotype, fat and bone components of body weight.

V. V. Chebotarev et al. [7] in patients with varying degrees of severity of acne identified the predominant type of physique. Mesomorphic somatotype predominated in patients with mild dermatosis, and endomorphic and ectomorphic body types in patients with severe dermatosis, mesomorphic somatotype was observed in 24 % and indeterminate in 10 % of patients.

Modern scientific research has shown evidence of the influence of excess body weight on the progression of dermatological diseases. However, it is important to assess which indicators of its component composition signal the risk of dermatitis of varying severity. Thus, O. T. Vartanova [20] evaluated and analyzed the peculiarities of body fat content in men of adolescence and the first period of adulthood with psoriasis. The control group was dominated by nanocorpulent, and in men with psoriasis - microcorpulent body type. In one third of sick men there is a macrocorpulent type, which is characterized by a high rate of fat mass.

As a result of our studies in patients with SD of varying severity men, compared with practically healthy men, found higher (p<0.05; p=0.063 with severe course) values of the muscle component of body weight determined by Matiegka and AIN, as well as smaller (p<0.01-0.05) values of the fat component of body weight. In patients of varying severity of women compared to practically healthy women, found higher (p<0.05-0.001) values of mesomorphic component of somatotype, muscle component of body weight determined by Matiegka and AIN, bone component of body weight (severe) only, as well as lower values of the fat component of body weight (only with a slight degree). There are no significant or tendency differences between somatotype components and body mass components between men or women with SD of varying severity. In the analysis of the manifestations of sexual dimorphism of the studied body parameters between men and women with SD found greater (p<0.05-0.001) values in men (regardless of the severity of the disease) muscle component of body weight determined by Matiegka and AIN, bone component of body weight. Thus, among the parameters associated with an unfavorable prognosis of this dermatosis are the muscle component of body weight determined by Matiegka and AIN, fat component of body.
weight (in both sexes) and mesomorphic and ectomorphic components of somatotype (in women).

Conclusions and prospects for further development
1. In patients men with SD of varying severity, compared with practically healthy men, found higher values of the muscle component of body weight determined by the methods of Matiegka and AIN, as well as lower values of the fat component of body weight. In patients of varying severity women compared to practically healthy women, found greater values of mesomorphic component of somatotype, muscle component of body weight determined by Matiegka and AIN, bone component of body weight (only severe), and lower values of body fat mass (only with a mild degree).

References
ОСОБЛИВОСТІ СОМАТОТИПОЛОГІЧНИХ ПАРАМЕТРІВ ТІЛА У ЧОЛОВІКІВ Ї ЖІНОК, ХВОРИХ НА СЕБОРЕЙНИЙ ДЕРМАТИТ РІЗНОГО СТУПЕНЯ ВАЖКОСТІ

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Анотація. Комплексний аналіз клініко-антропометричних предикторів дозволяє максимально повно і точно об'єктивизувати віддалений прогноз хворих на генералізовану жирну форму себорейного дерматиту. Саме тому, у даній роботі планується доповнити існуючі дані вивченням особливостей компонентів соматотипу та показників компонентного складу маси тіла у цієї категорії пацієнтів. Мета дослідження - встановити та провести аналіз особливостей компонентів соматотипу та показників компонентного складу маси тіла у чоловіків і жінок, хворих на генералізовану жирну форму себорейного дерматиту різного ступеня важкості. У 40 українських чоловіків і 40 українських жінок молодого віку (25-44 роки згідно вікової пе ріодизації ВООЗ, 2015) хворих на генералізовану жирну форму себорейного дерматиту (в подальшому себорейного дерматиту) визначені компоненти соматотипу згідно схеми Хіт-Картера та абсолютнона кількість жирового, кісткового та м'язового компонентів маси тіла за формулами J. Matiegka і Американського інституту харчування (АІХ). В якості контролю аналогічні показники взято у практично здорових українських чоловіків (n=82) і жінок (n=154) із банку даних науково-дослідного центру Вінницького національного медичного університету ім. М. І. Пирогова. Статистичний аналіз отриманих результатів проведено в ліцензійному пакеті "Statistica 6.0" із використанням непараметричних методів оцінки. У результаті проведених досліджень у хворих на себорейний дерматит різного ступеня важкості чоловіків, порівняно з практично здоровими чоловіками, встановлені більші значення м'язового компоненту маси тіла за методиками Matiegka та АІХ, а також менші значення жирового компоненту маси тіла. У хворих різного ступеня важкості жінок порівняно з практично здоровими жінками, встановлені більші значення мезоморфного компоненту соматотипу, м'язового компоненту маси тіла за методиками Matiegka та АІХ, кісткового компоненту маси тіла (лише з тяжким ступенем), а також менші значення жирового компоненту маси тіла (лише з легким ступенем). Між чоловіками або жінками хворими на себорейний дерматит різного ступеня важкості не встановлено достовірних або тенденцій розбіжностей компонентів соматотипу та показників компонентного складу маси тіла. При аналізі проявів статевого диморфізму досліджуваних параметрів тіла між хворими на себорейний дерматит чоловіками та жінками встановлені більші значення у хворих (незалежно від важкості замороження) м'язового компоненту маси тіла за методиками Matiegka та АІХ і кісткового компоненту маси тіла. Таким чином, серед параметрів, асоційованих із несприятливим прогнозом розвитку даного дерматозу, виявляються м'язовий компонент маси тіла за методиками Matiegka та АІХ, жировий компонент маси тіла (у обох статей) та мезоморфний та ектоморфний компоненти соматотипу (у жінок).

Ключові слова: захворювання шкіри, хворі на себорейний дерматит чоловіки та жінки, практично здорові чоловіки та жінки, соматотип, компонентний склад маси тіла.