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CONSTITUTIONAL FEATURES OF THE OCCURRENCE OF BENIGN AND MALIGNANT SKIN TUMORS (ANALYSIS OF SCIENTIFIC LITERATURE)

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Annotation. *The purpose of the work is to analyze the scientific literature on the constitutional features of the occurrence and course of benign and malignant skin tumors. Increasing incidence of skin tumors, in particular, melanoma of the skin requires the creation of simple and effective mechanisms to predict the occurrence of this category of diseases. Foreign authors have been actively working in recent decades to find relationships between body structure and the occurrence and course of many skin diseases, and oncological pathologies have not become an exception. The analysis of scientific literature from the scientometric databases Google Scholar, MedLine, Web of Science, Scopus for 2008-2019 (the overwhelming majority of which - over the past 5 years), has shown promise of research in this direction, and due to the lack of such domestic works, there is an urgent need to conduct research on the Ukrainian population.*

Keywords: *nevus, melanoma of the skin, clinical anthropology, genetic markers.*

Oncological disease is still one of the leading causes of morbidity and mortality in the world. In the structure of this category of diseases a special place is occupied by skin tumors, which firstly have greater contact with carcinogenic factors - ultraviolet radiation, infectious diseases caused by viruses and bacteria, mechanical damage, etc., secondly difficult to diagnose (differential diagnosis of skin melanoma is one of the most difficult in pathomorphology) and thirdly have a high mortality (melanoma of the skin has some of the highest rates of metastasis and mortality).

The purpose of the work - to analyze the scientific literature on the constitutional features of the origin and course of benign and malignant skin tumors.

Skin cancers include many types of tumors, which according to the most common classification are divided by source: keratinocyte tumors, melanocyte tumors, skin appendage tumors, soft tissue tumors of the skin, neural tumors and tumors of the subcutaneous layer [13]. Accordingly, each of these species is represented by malignant and benign species.

The prevalence of malignant skin cancers in people over 50 years of age increases by 0.6 % every year. In 2016, 76,380 new cases of melanoma were recorded [4] and 3.5 million new cases of other skin cancers [8]. In Iran, from 2003 to 2008, 49,740 cases of skin cancer were recorded, among which the most common was basal cell carcinoma (65.40 %) [23]. Benign skin tumors account for 3 % of all skin samples sent for histological examination. The most common benign tumors are in people 20-40 years; in women, benign skin tumors are 2 times more common than in men [21].

The prevalence of skin cancer varies in different regions, even within one country. Thus, in the United States in the state of Hawaii, the prevalence of skin cancer is 422 cases per 100 thousand population, while in Minnesota - 146 cases

per 100 thousand population [8].

In Ukraine, as of 2015-2016, the number of people with malignant neoplasms of the skin was 919 093, of which 174,848 patients had non-melanoma malignant neoplasms, and 2796 people were diagnosed with melanoma [2].

This epidemiological situation requires the search for an effective, simple and inexpensive tool to predict the risk of occurrence and course of these pathologies. An effective tool in this case can be clinical anthropology, the reliability of which has been tested in various fields of medicine (sports medicine [1], forensic medicine [11], dentistry [18], cardiology [20], etc.). In particular, both domestic and foreign studies have found correlations between anthropometric indicators and the risk of occurrence and course of skin diseases such as acne [10], atopic dermatitis [3] and others and the occurrence of various cancers [5].

U.S. researchers conducted a long-term study on 58,213 people to determine the relationship between height, weight, body mass index and the risk of basal cell carcinoma of the skin, which was detected in 2,291 people. Statistical analysis revealed that the risk of basal cell skin cancer increased with increasing height, and decreased with increasing weight and body mass index in both sexes and even after adjustment according to the factor of susceptibility and exposure to ultraviolet radiation [9].

A similar long-term study (1993-2007) was conducted by Danish scientists with 55,928 participants. Unlike the previous study, shin and wrist circumferences were also measured. It was found that women with the highest body weight index of the study had a lower risk of developing basal cell carcinoma of the skin (0.67 (95 % CI: 0.54-0.82)) compared to women with lower body mass index quarters [22].

A group of Australian scientists measured the body

weight and height of 1,171 men and women to determine the relationship between anthropometric values and the incidence of various skin cancers. The study considered exposure to ultraviolet radiation, skin phenotype and other factors. In 16 years of follow-up, in 550 people developed skin cancer. Of all the indicators, only a person's height was significantly associated with the development of squamous cell carcinoma and melanoma in men and basal cell carcinoma in women [15].

Zhou D. et al. [28] conducted a meta-analysis of epidemiological studies to find a correlation between body mass index and non-melanoma skin cancer. As a result, the authors considered only 9 publications in which a total of 971,795 people were examined, of which skin cancer was detected in 50,561 people. Nonlinear feedback between body mass index and non-melanoma skin cancer has been reported.

A similar study conducted by Karimi K. et al. [12] using meta-analysis of literature sources confirmed the correlation between the risk of melanoma and non-melanoma skin tumors and obesity.

71,645 postmenopausal women were assessed for body mass index, waist-to-hip ratio, and ultraviolet radiation from 1993 to 1998. During this period, 18.6 % of women developed non-melanoma skin cancer. Statistical analysis of the obtained data showed that the body mass index ≥ 25 kg/m² or the ratio of waist circumference to the thigh ≥ 0.80 is associated with lower rates of non-melanoma skin cancer [6].

Norwegian researchers surveyed 292,851 people during 1972-2003. During the 27 years of the study, 3,000 people developed skin melanoma. All subjects underwent anthropometric studies. All data were adjusted for exposure to ultraviolet radiation, age, and smoking. Statistical analysis of the data revealed a positive relationship between the occurrence of melanoma of the skin and body mass index, body area, height and weight ($p < 0.001$) [24].

Meyle K. D. et al. [19] investigated the association of the risk of melanoma in adulthood and anthropometric indicators of persons in childhood (7-13 years). The study analyzed data from 372,636 Danish children born between 1939 and 1989. During the observation in 2,329 of the subjects developed skin melanoma. There was a significant association between growth rates at the age of 7-13 years and the risk of melanoma - children who were tall at 7 and 13 years were more likely to develop melanoma than children who grew between 7-13 years. Birth weight was also positively associated with the risk of skin melanoma.

Korean researchers conducted a large sample of more than 22 million people over a 7-year period to find a correlation between wrist circumference and the risk of 23 cancers. During the observation period, 2963 subjects developed melanoma of the skin. Statistical analysis of the

data revealed a relationship between wrist circumference and the risk of skin melanoma [16].

Zhang Y. et al. [27] studied anthropometric parameters in 377 people with basal cell skin cancer and 389 people with benign skin tumors (control group). The body mass index was inversely related to the early development of this type of cancer.

The team of scientists conducted a meta-analysis of 12 studies with a total of almost 5 million people surveyed, including 20,049 patients with skin melanoma. Statistical analysis of anthropometric data revealed that individuals with the highest growth category had a higher risk of melanoma compared with individuals with the lowest growth category (RR = 1.46, 95 % CI 1.24 to 1.73; $p < 0.001$) [26].

Similar results were obtained in a meta-analysis performed by Vena G. A. et al. [25], who established a correlation between human body growth and the risk of melanoma.

Analysis of anthropometric data of 98,995 women in the French cohort born in 1925-1950 revealed a positive relationship between the risk of melanoma and human growth, and a negative relationship between body area in menarche and the risk of melanoma [14].

There is a higher risk of melanoma in overweight women compared to not overweight women (OR=1.64). In the group of menopausal women, the OR rate increases to 2.50 [7].

Analysis of data from more than 1 million Jewish men aged 16-19 collected between 1967 and 2005, among whom 1,562 were diagnosed with melanoma, revealed correlations between a person's background and the risk of melanoma. Thus, Jews of European and Israeli descent have higher rates of morbidity than Jews of African and Asian descent [17].

Conclusions and prospects for further development

1. The analysis of foreign literature sources convincingly proves the existence of a relationship between constitutional indicators and indicators of skin cancer morbidity. Unfortunately, the work performed by domestic scientists in this direction was not detected in the analysis of scientometric databases.

Search, selection and further use of anthropometric markers as genetic markers of benign and malignant skin tumors among the population of Ukraine is a promising area for domestic medicine, as it will find and form risk groups among different segments of the population. Individuals in these groups will be able to avoid or reduce contact with carcinogenic factors (primarily - excessive ultraviolet radiation), which in turn will reduce morbidity and mortality, especially to improve the epidemiological situation of the most dangerous type of tumors in this group - melanoma of skin.

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КОНСТИТУЦІОНАЛЬНІ ОСОБЛИВОСТІ ВИНИКНЕННЯ ДОБРОЯКІСНИХ І ЗЛОЯКІСНИХ НОВОУТВОРЕНЬ ШКІРИ (АНАЛІЗ НАУКОВОЇ ЛІТЕРАТУРИ)

Набіль Басім Юсіф Хаддад

Анотація. Мета роботи - провести аналіз наукової літератури щодо конституціональних особливостей виникнення та перебігу доброякісних та злоякісних новоутворень шкіри. Збільшення захворюваності на новоутворення шкіри, зокрема, на меланому шкіри вимагає створення простих і дієвих механізмів для передбачення виникнення даної категорії захворювань. Закордонними авторами протягом останніх десятиліть активно ведуться роботи щодо пошуку взаємозв'язків між особ-

ливостями будови тіла та виникненням і перебігом багатьох захворювань шкіри, і виключенням не стали онкологічні патології. Проведений аналіз наукової літератури з наукометричних баз Google Scholar, MedLine, Web of Science, Scopus за 2008-2019 рр. (переважна більшість з яких - за останні 5 років) показав перспективність виконання досліджень у цьому напрямку, і у зв'язку з відсутністю подібних вітчизняних робіт, існує гостра необхідність у проведенні даних досліджень на українській популяції.

Ключові слова: невус, меланома шкіри, клінічна антропологія, генетичні маркери.

КОНСТИТУЦИОНАЛЬНЫЕ ОСОБЕННОСТИ ВОЗНИКНОВЕНИЯ ДОБРОКАЧЕСТВЕННЫХ И ЗЛОКАЧЕСТВЕННЫХ НОВООБРАЗОВАНИЙ КОЖИ (АНАЛИЗ НАУЧНОЙ ЛИТЕРАТУРЫ)

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Аннотация. Цель работы - провести анализ научной литературы по конституциональным особенностям возникновения и течения доброкачественных и злокачественных новообразований кожи. Увеличение заболеваемости новообразованиями кожи, в частности, меланомой кожи требует создания простых и действенных механизмов для предсказания возникновения данной категории заболеваний. Зарубежными авторами в течение последних десятилетий активно ведутся работы по поиску взаимосвязей между особенностями строения тела, возникновением и течением многих заболеваний кожи и исключением не стали онкологические патологии. Проведенный анализ научной литературы с наукометрических баз Google Scholar, MedLine, Web of Science, Scopus за 2008-2019 гг. (подавляющее большинство из которых - за последние 5 лет) показал перспективность проведения исследований в этом направлении, и в связи с отсутствием подобных отечественных работ существует острая необходимость в проведении данных исследований на украинской популяции.

Ключевые слова: невус, меланома кожи, клиническая антропология, генетические маркеры.
