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Peculiarities of the course of seborrheic keratosis of extragenital localization among the female population

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Seborrheic keratosis (SK) remains the leader among benign skin pathologies. In the classical sense, extragenital foci of this dermatosis look like light or dark brown papules with dense hyperkeratotic or verrucous layers. Such a clinical picture is characteristic of the typical form of foci of skin lesions.
The etiopathogenetic mechanisms of SK appearance are not sufficiently studied, because a large number of trigger factors are reported. Given the benign profile of these lesions, practitional doctors very often do not pay much attention to these foci. While for patients, their appearance and increase in size can cause the emergence of obsessive or anxiety states both due to the development of cancer-phobic states due to significant aesthetic discomfort.
The objective: **to determine the peculiarities of the course of seborrheic keratosis in women, taking into account anamnestic data on the effect of insolation on the skin and phenotypic criteria represented by the skin phototype, as well as to analyze the dermatological quality of life indicator in patients with keratosis depending on the location of neoplasms.**
Materials and methods**. Based on the Educational and Scientific Medical Center «University Clinic» of Zaporizhzhia State Medical and Pharmaceutical University, 50 patients with foci of seborrheic keratosis, whose ages ranged from 27 to 80 years old, were examined. To verify the diagnosis, the following parameters were carried out: a clinical examination of neoplasms with an assessment of the phenotypic criterion – skin phototype according to Fitzpatrick, dermatoscopic and pathomorphological examination. The assessment of the impact of keratosis on the quality of life of patients was based on the calculation of the results of the DLQI (Dermatology Life Quality Index) questionnaire.**
Results**. The studied sample is represented by the majority of representatives of the II phototype – 44 persons and a small number of the III phototype – 6 patients, which amounted to 88% and 12%, respectively. The most frequent localization of keratosis was the head – 18 (36%), torso – 11 (22%), extremities – 13 (26%), and neck – 8 (16%). This location on open areas of the body can be an additional confirmation of the effect of ultraviolet radiation on the occurrence of keratosis.**
According to the results of the questionnaire with the study of anamnestic data, more than half of the examined patients (58%) had skin burns after a long stay in the open sun. In addition, an insufficient level of use of photoprotective agents was determined. All these factors can be as triggers for the appearance of keratosis foci and negatively affect the self-esteem and aesthetic appeal of patients. Indeed, when efflorescences are located in visual areas of the body, the dominant factor is a decrease in the quality of life.
Conclusions**. Predominance of patients with II skin phototype (88%) and lack of photoprotection skills (48% never use sunscreen, 32% sometimes) are the most influential factors in determining insolation as one of the leading triggers of seborrheic keratoma formation.**
Localization of keratosis foci on open areas of the body to a greater extent negatively affects the quality of life of women, demonstrating higher DLQI index values – 7 points – versus 5 points in the women with the keratomas on the torso. Therefore, increasing the level of awareness among patients about sun exposure, the use of photoprotection and regular examination is a priority task for doctors of all levels.
Keywords: *women, age-related changes, skin, seborrheic keratosis, ultraviolet radiation, quality of life.*

Особливості перебігу себорейного кератозу екстрагенітальної локалізації серед жіночої популяції

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Себорейний кератоз (СК) залишається лідером серед доброякісних новоутворень шкіри. У класичному розумінні екстрагенітальні вогнища даного дерматозу виглядають як папули світло- або темно-коричневого кольору зі щільними гіперкератотичними або верукозними нашаруваннями. Така клінічна картина притаманна для типової форми вогнищ ураження шкіри. Етіопатогенетичні механізми появи СК недостатньо вивчені, адже повідомляється про велику кількість тригерних факторів. Ураховуючи доброякісний профіль кератом, практичні лікарі дуже часто не приділяють значної уваги цим вогнищам. Тоді як для пацієнтів їхня поява і збільшення у розмірах може стати причиною виникнення нав'язливих або тривожних станів як за рахунок розвитку канцерофобічних станів, так і через значний естетичний дискомфорт.
Мета дослідження: визначення особливостей перебігу СК у жінок з урахуванням анамнестичних даних щодо впливу інсоляції на шкіру та фенотипічних критеріїв, які представлені фототипом шкіри, а також проведення аналізу дерматологічного показника якості життя пацієнток із кератомами залежно від локалізації новоутворень.
Матеріали та методи. На базі Навчально-наукового медичного центру «Університетська клініка» Запорізького державного медико-фармацевтичного університету обстежено 50 пацієнток із вогнищами СК, вік яких коливався у межах від 27 до 80 років. З метою верифікації діагнозу було проведено: клінічний огляд новоутворень з оцінюванням фенотипічного критерію – фототипу шкіри за Фіцпатріком, дерматоскопічне та патоморфологічне дослідження. Оцінювання впливу СК на якість життя пацієнток базувалось на підрахунку результатів опитувальника DLQI (Dermatology Life Quality Index).

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Результати. Досліджувана вибірка представлена більшістю представниць II фототипу – 44 особи та незначною кількістю III фототипу – 6 пацієнток, що становило 88% та 12% відповідно. Найбільш частою локалізацією кератом стали ділянки голови – 18 (36%), тулуба – 11 (22%), кінцівок – 13 (26%), шиї – 8 (16%) випадків. Таке розташування на відкритих ділянках тіла може бути додатковим підтвердженням впливу ультрафіолетового опромінення на виникнення кератом.
За результатами анкетування з дослідженням анамнестичних даних, більше половини обстежених пацієнток (58 %) мали опіки шкіри після тривалого перебування на відкритому сонці. Окрім того, зафіксовано недостатній рівень використання фотопротективних засобів. Усе це може слугувати тригерами виникнення вогнищ кератозу та негативно впливати на самооцінку та естетичну привабливість пацієнток. Дійсно, за розташування ефлорисценцій на візуально відкритих ділянках тіла домінантним є зниження якості життя.
Висновки. Перевага пацієнток із II фототипом шкіри (88%) та відсутність навичок використання фотозахисту (ніколи не використовують сонцезахисні засоби 48%, інколи – 32%) є найбільш впливовими факторами у визначенні інсоляції як одного з провідних тригерів формування себорейних кератом.
Локалізація вогнищ кератозу на відкритих ділянках тіла значною мірою негативно впливає на якість життя жінок, демонструючи більш високі показники індексу DLQI – 7 балів проти 5 балів у жінок із кератомами на тулубі. Тому підвищення рівня обізнаності пацієнток щодо впливу сонця, застосування фотозахисту та регулярного огляду є першочерговим завданням лікарів усіх ланок.
Ключові слова: *жінки, вікові зміни, шкіра, себорейний кератоз, ультрафіолетове опромінення, якість життя.*

Seborrheic keratosis (SK) remains the leader among benign skin neoplasms in terms of frequency of registration and affects almost 90–100% of middle-aged and elderly people [1–3]. There are some debatable points regarding gender preference because Alapatt G. F. et al. in their study indicated the prerogative of SK in women, which corresponded to 76% of the studied sample [4]. At the same time, Gill D. et all did not determine a significant gender difference in the manifestations of keratosis [5].

In the classical sense, extragenital foci of this dermatosis look like light or dark brown papules with dense hyperkeratotic or verrucous layers. Such a clinical picture is characteristic of the typical form of foci of skin lesions. There is no single classification, but individual studies suggest the following: papulosis dermatosis nigra, stucco keratosis, inverted follicular keratosis, large cell acanthoma, lichenoid keratosis, flat and typical keratosis [6]. Flat seborrheic keratosis is localized most often in areas subject to the influence of insolation in the form of oval dark brown spots that can imitate lentigo. Stucco keratosis is represented by papules of white to yellow color, individuals with warty growths, which are symmetrically localized on the skin of the distal parts of the lower extremities. All other forms with the accumulation of scientific data are considered by individual researchers as independent nosological units or are generally united under the single name «benign keratosis» [7].

In contrast to extragenital localization, the occurrence of SK within the genital organs is not common enough. For representatives of these neoplasias within the genitalia, mimicry with condyloma acuminata is typical, which complicates correct and timely diagnosis [8–11]. Despite the isolated reports of the appearance of keratosis in these areas, it is worth performing a differential search with the involvement of this benign neoplasia.

The etiopathogenetic mechanisms of the appearance of SK are not sufficiently studied, because a large number of trigger factors are reported: from intense insolation and the human papillomavirus to the occurrence of mutations at the gene level [12–14]. The impact of ultraviolet radiation is the most relevant topic for discussion. According to research results, the accumulation of solar radiation during life for more than 6 hours per day is associated with a 2.28-fold increase in the risk of SK, compared to insolation of less than 3 hours [15]. At the same time, other works report that prolonged exposure to the sun during life, and the presence of sunburns with painful sensations before the age of 20 are associated with the occurrence of actinic keratosis and nevi, but are not associated with the development of seborrheic keratosis.

The previous works of the authors of this article emphasize the connection between excessive exposure to ultraviolet radiation and the risk of multiple lesions [16]. In the past discourse with the definition of possible SK triggers, preference was given to the hypothesis regarding keratosis as a manifestation of age-related skin changes [17]. But the latest data, on the contrary, indicate the «rejuvenation» of dermatosis [18]. As for the appearance of SK within the genitals, infection with the human papillomavirus is considered to be the predominant trigger in such cases [19, 20]. This etiological factor can be dominant in immunocompromised patients with skin manifestations of keratosis [12].

Given the benign profile of these lesions, practitioners very often do not pay much attention to these foci. While for patients, their appearance and increase in size can cause the emergence of obsessive or anxiety states both due to the development of cancer-phobic states due to significant aesthetic discomfort. The presence of such neoplasma can cause suffering, especially if lesions are localized on open areas of the body: face, limbs, d collet . Feelings of embarrassment or shame affect the self-esteem of patients, and their ability to interact with other people, which leads to a decrease in social support and affects both the general quality of life and sexual - in the case of genital localization of foci.

The objective: to determine the peculiarities of the course of seborrheic keratosis in women, taking into account anamnestic data on the effect of insolation on the skin and phenotypic criteria represented by the phototype of the skin. It is also planned to conduct an analysis of the dermatological index of quality of life in patients with keratosis, depending on the location of neoplasms.

MATERIALS AND METHODS

Based on the Educational and Scientific Medical Center «University Clinic» of Zaporizhzhia State Medical and Pharmaceutical University, 50 patients with foci of seborrheic keratosis, whose ages ranged from 27 to 80 years old, were examined. To verify the diagnosis, the following was performed:

1. Clinical examination of neoplasms with an evaluation of the phenotypic criterion - skin phototype according to Fitzpatrick. This scale varies from I (patients with light eyes and hair, skin sensitive to insolation, which often reacts

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with burns and redness even at the slightest exposure to ultraviolet light) to VI (dark color of eyes and hair, skin capable of uniform tanning with a high level of tolerance to the formation of burns during prolonged exposure to the open air). The objectification of determining belonging to one or another phototype is the total number of points according to the classic questionnaire: I – 0–6; II – 7–13, III – 14–20, IV – 21–27, V – 8–34, VI – more than 35.

2. Dermatoscopic examination in the polarized light mode using the Dermlite DL4 dermatoscopy and the FotoFinder dermatoscopic device (Germany) with the determination of classic SK patterns: cerebriform structures, comedone-like openings, milium-like cysts, «fingerprint»-type structures, moth-eaten edges, vessels by «hairpin» type.

3. Pathomorphological examination using sections stained with hematoxylin and eosin.

Particular attention was paid to the collection of anamnesis with emphasis on the peculiarities of being in conditions of active solar or artificial insolation, as well as the frequency of burns after ultraviolet insolation and the mode of use of sunscreens. The assessment of the impact of SK on the quality of life of patients was based on the calculation of the results of the DLQI (Dermatology Life Quality Index) questionnaire. The interpretation of the results after answering the questions is presented as follows:

0–1 – no influence;
2–5 – minor impact;
6–10 – moderate impact;
11–20 – significant impact;
21–30 – extremely high influence.

All women involved in the study were informed about the purpose and methodology of the scientific work and gave voluntary consent to the examination. Statistical processing of the obtained results was carried out on a personal computer in the program «Statistica® for Windows 13.0» (StatSoft Inc., license No JP Z804I382130ARCN10-J).

RESULTS AND DISCUSSION

Taking into account the clinical picture, in most patients, keratomas corresponded to the typical form, which accounted for 76% of the studied sample. The next distribution tends towards decreasing registration frequency and is represented by 11 flat (22%) and single (2%) cases of stucco keratosis. The predominance of typical efflorescences corresponds to general world observations. The most frequent localization of keratosis was the head – 18 (36%), torso – 11 (22%), extremities – 13 (26%), and neck – 8 (16%).

The concept of «extremity» corresponded to the location of SK within the back surface of the hands and lower legs. When registering these neoplasms on the trunk, almost half of the cases are foci in the submammary zones, which can be hypothetically associated with the -type hupapillomavirusirus. As can be seen from the diagram (Fig. 1), most neoplasms are located precisely on open areas of the body, which are potentially the most vulnerable to ultraviolet radiation.

According to the results of the questionnaire with the study of anamnestic data, more than half of the examined patients (58%) received skin burns after a long stay in the open sun. This, in turn, confirms the thesis regarding the cumulative effect of solar radiation on the occurrence of neoplasia. After all, numerous studies indicate an increased risk of various skin neoplasms associated with sunburns [21–24]. At the same time, only 1 patient lived in a country with increased insolation for six months, the rest spent most of the time in Ukraine.

A non-modifying factor that indicates innate sensitivity to exposure to ultraviolet radiation is skin phototype. Summarizing the data of the visual assessment of the phenotype of the patients, as well as the level of tolerance to natural/artificial insolation, the studied sample is represented by the dominant majority of the II phototype – 44 individuals and a small number of representatives of the III phototype – 6 patients, which amounted to 88% and 12%, respectively.

The use of sunscreens remains an extremely important preventive measure in reducing the risk of any skin neoplasms [25–28]. Unfortunately, this work shows a tendency to underestimate the photoprotection of the skin, both for the prevention of neoplasms on the skin and for photoaging. Thus, it was established that 24 (48%) patients never used sunscreens, 16 (32%) sometimes used them, and only 20% (10 women) always. The obtained results may indicate that the habit of using photoprotection has not been formed among the population, which is explained by the insufficient level of awareness and education regarding the influence of insolation on the risk of skin neoplasms and photoaging in general. Thus, once again, the role of ultraviolet radiation as a trigger for the occurrence of SK is determined, corresponding to the global trends regarding factors provoking this disorder.

When collecting anamnesis, attention was focused on the following questions, which are an adaptation to the standardized questionnaire of the Euromelanoma organization:

1) is your work or hobby related to being outdoors? (Yes; No; Don't know);

2) how does your skin react to the sun? (I always burn, I never tan; I always burn, I tan very badly; First I burn, then I tan; I rarely burn, I tan easily; I rarely burn, I have dark skin);

3) when you are outdoors for more than 1 hour? (Never; Sometimes; Always)

4) how many weeks per year do you spend in solar activity (after 18 years)? (0; 2 weeks and less; More than 2 weeks). The results of the analysis of anamnestic data the questions presented above are shown in Fig. 2.

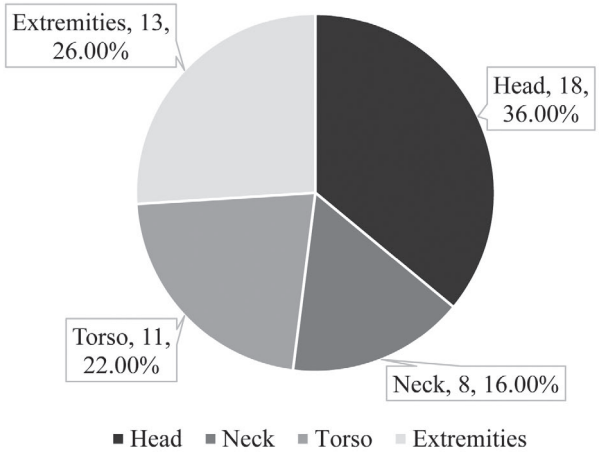

Fig. 1. Localization of SK among women of the studied sample

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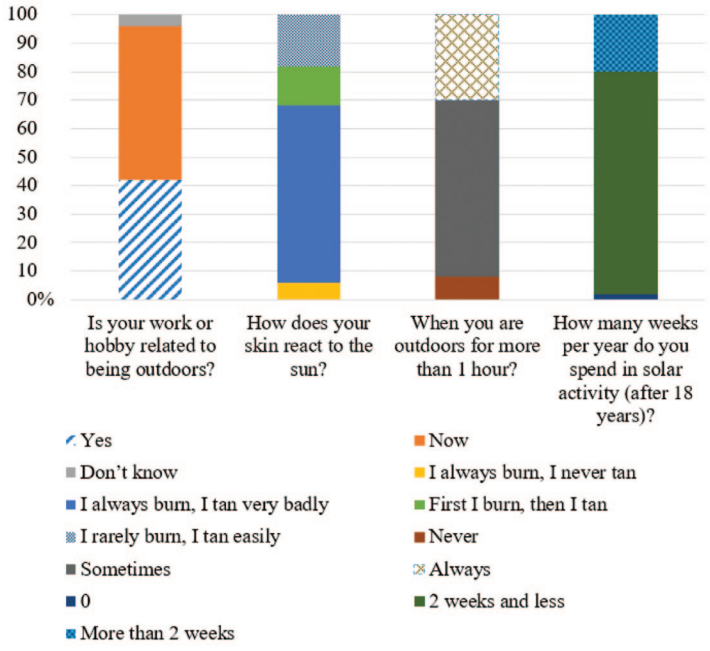

Fig. 2. Distribution of answers to the adapted questionnaire during the initial collection of anamnesis

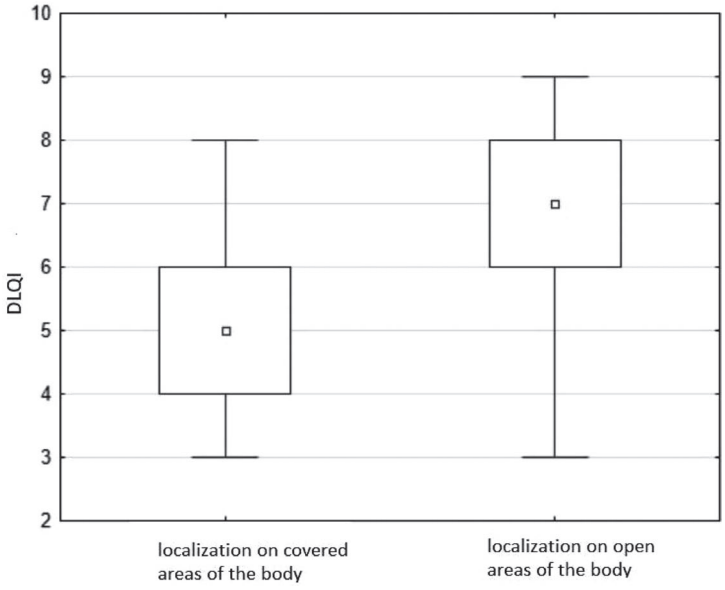

Fig. 3. Distribution of the Dermatology Life Quality Index in groups of patients with different localization of SK

Thus, 42% of people (n=21) have work/hobbies related to being outdoors. At the same time, the share of citizens in the studied group of persons is 90%. In the context of the obtained results of this study, it can be assumed that the obtained indicator, firstly, is related to the greater concern of the townspeople about their appearance and, secondly, to the accessibility of the secondary level of specialized care. The category «Sometimes outdoors for more than 1 hour» was established in 31 patients, which is 62% of the total number of interviewed women. Staying in the conditions of solar activity for an average of 2 weeks per year was recorded in the majority of women, exceeding this period was verified in 10 people (20%). Subjectively, almost 60% of patients report poor formation of a tan with the previous development of sunburn.

Taking into account the greater concern of the female population about their appearance, the formation of aesthetically unattractive SK foci on open areas of the body contributes to significant psycho-emotional discomfort and a change in self-esteem. The negative impact on the quality of life becomes a «cornerstone» for most patients with keratoma, reducing the level of social adaptation, especially against the background of multiple lesions and the likely formation of secondary skin changes. The total results of the DLQI questionnaire in persons with SK manifestations on the face, neck, and parts of the limbs exposed to insolation are quite characteristic. For example, in this group of patients, the average indicator according to the questionnaire was 7 points (3; 9) and corresponds to a moderate impact on the quality of life, while women with keratomas on the trunk show result one step lower – 5 points (3; 8). It is worth noting that the majority of female patients of both groups answered affirmatively to questions about the effect of skin changes on social activity or leisure time (Fig. 3).

Thus, when analyzing the questionnaire regarding the dermatological quality of life depending on the localization of SK, the difference is statistically significant ($U=61$; $p<0.05$)

Therefore, doctors of any specialty should take into account the psychological aspect of the presented problem when examining patients, especially women, and in the future choose gentle, non-invasive methods of therapy that would be effective and efficient in terms of treatment, but at the same time ensure the minimization of possible secondary changes on visual parts of the body. Such a personalized approach will ensure a sufficient level of compliance and communication in the doctor-patient relationship, maintaining a satisfactory state of psycho-emotional balance.

CONCLUSIONS

1. Predominance of patients with II skin phototype (88%) and lack of photoprotection skills (48% never use sunscreen, 32% sometimes) are the most influential factors in determining insolation as one of the leading triggers of seborrheic keratosis formation.

2. Localization of keratosis lesions on open areas of the body to a greater extent negatively affects the quality of life of women, demonstrating higher indicators of the DLQI – 7 points – against 5 in the comparison group.

3. Persisting recommendations of doctors of all branches regarding regular preventive skin examinations and the use of sunscreens (topical creams, sprays, fluids), clothing, and hats will contribute to increasing the level of awareness and prevention of the population regarding the threatening influence of insolation on the development of neoplasms and photoaging.

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