

МЕДИЦИНСКИЕ НАУКИ

RISK FACTORS IN INCREASING OF SKIN MALIGNANCIES

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Over the past 10 years, there has been an increase in skin malignant neoplasms, especially basalt cells of skin cancer. There is an extensive literature on risk factors for skin diseases. Many authors describe the correlation between risk factors and skin neoplasms genesis but they do not consider the impact of environmental and epidemiological factors of the environment on the human body. In this regard, the influence of risk factors on the occurrence of skin malignancies was set up as the key focus of this study. A comparative statistical analysis of the obtained biological material was being conducted for a year. A reliable visual and traditional cytological method of investigation was used in the study. The results of a cytological study of skin neoplasms showed a negative effect on the incidence of skin carcinoma. These findings can be used for preventing, prognosis, and early diagnosis of skin basalt cell cancer.

Key words: basalt cell carcinoma, malignancy, cytology, neoplasm, biopsy.

I ntroduct. Skin diseases are the most common and oncopathologies. Skin neoplasms occupy one of the first places among all malignant diseases In recent years. There has been a constant increase in the incidence of the disease. This makes it easier to pay close attention to this problem. There are enough factors that affect the appearance of skin pathologies. This can be a genetic predisposition, injuries, epidemiological factors, environmental conditions, and much more.

Among all the described forms of skin cancer, basal cell carcinoma is the most common. It is 60-80% of the total number of diseases. Localization of the process is most often observed in open areas of the body. It affects the elderly and middle-aged people. Early diagnosis of the disease gives favorable prognoses. Besides, it is very important to conduct differential diagnostics of various dermatological pathologies and benign neoplasms.

The material used for the study is scrapings, smears, smears-from the signet. Often edelivered material obtained by incision or puncture biopsy. Fixed and colored skin preparations are subjected to microscopic examination. This allows you to establish an accurate diagnosis and choose an adequate treatment strategy for this pathology. The earlier a basal cell carcinoma is detected, the less likely it is that basal cell carcinoma will grow into

the underlying skin layers and relapse will occur.

Early detection of malignant neoplasms, precancerous changes under the influence of environmental factors, and the determination of high-risk groups using cytological research methods can reduce the detection of advanced forms of skin cancer.

The purpose of this paper is to study the influence of risk factors on the increase in the incidence of skin malignancies. The greatest number of skin pathologies, especially basal cell carcinoma, according to some authors, is based on a genetic predisposition. According to others, the epidemiological aspect is the determining factor.

Therefore, the main task along with the search for ways of timely prevention, the study of the process of carcinogenesis, depending on the influence of environmental factors, is of interest.

Based on the conducted cytological studies and the use of a statistical method, the analysis of the influence of risk factors on the occurrence of skin malignancies was carried out. As a result, it was found out that the polluted air environment can be caused by malignization of the skin, since suspended dust particles in the air.

Material and method. The work was performed based on the Rostov regional pathology Bureau. A study of the cytological material was carried out in the cytological laboratory. The object

of research of material was scrapings, smears, smears-prints, as well as puncture material.

This material was taken from the affected areas of the skin or surgical incisions. Before performing, microscopic examination preparations were first fixed and then colored. Wet fixation of biological material after drying was performed with the May-Grunvald fixator. Staining of cytological preparations of the skin was carried out according to Romanovsky-Gimza and with hematoxylin-eosin.

Microscopic examination of ready-made preparations was carried out to identify cytology-

ical features that can make a cytological diagnosis. In doubtful cases, histological verification of skin preparations was performed.

Cytological diagnostics is used for the timely recognition of malignant and benign skin neoplasms. It is also used for detecting precancerous diseases and early stages of skin cancer, especially, basal cells of the skin.

Results. In the laboratory for the last 6 years, cytological material taken from 197 197,796 individuals diagnosed with basal cell carcinoma was studied. The data of the study are presented in the table (fig. 1).

CHANGES IN THE NUMBER OF PATIENTS DIAGNOSED WITH BASAL CELL CARCINOMAS FOR THE PERIOD 2014-2019

Years	Number of individuals				
	Men	Women	Total diagnosed with basal cell carcinoma	Total number of people surveyed	Percentage(%)
2014	624	523	1147	34429	3,3
2015	701	649	1350	34331	3,9
2016	824	770	1594	34420	4,6
2017	912	789	1701	31098	5,4
2018	904	841	1745	31603	5,5
2019	1021	977	1998	31915	6,2
Total	4986	4549			

Statistical analysis of the data presented in the table. shows that only in the last 6 years the percentage of cases has increased from 3.3% to 6.2%. There is a steady increase in morbidity. Males make up 52.3%. Women suffer from this disease slightly less often. Every year, the total number of people surveyed is almost identical. But the incidence of basal cell cancer of the skin has almost doubled.

Basal cell carcinoma was diagnosed to 1,147 individuals in 2014. This figure was 1,998 individuals in 2019. Moreover, the total number of examined patients was less than 2500 people.

Basal cell carcinomas localized in open areas of the body. There is a genetic predisposition present in the anamnesis. This figure was very small. Multiple basal cell carcinomas were extremely rare. Skin malignancies in the early stages accounted for less than 1%. Histological verification was performed to confirm the diagnosis in doubtful cases. The cytological laboratory is located in the mining

region. Most of the mines are closed. However, about 55piles continue to release harmful substances into the air. There is a correlation between the growth of morbidity, skin malignancies and environmental conditions.

Literature review. According to the definition of the Committee of the World Health Organization (CHO), basal cell carcinoma is a locally developing (growing) skin tumor. The annual increase in the incidence of skin cancer in comparison with other tumors puts the problem of early and accurate diagnosis of basal cell carcinoma on the leading place. The frequency of skin lesions is high. Basal cell cancer of the skin is more common in open areas of the body. Skin disease affects middle-aged and elderly people (Ackerman A.B., Reddy V.B.).

Basal cell carcinoma almost does not develop metastases. Rarely, relapses occur. It grows slowly and can spread through the tissue for years. It has low aggressive properties but is

dangerous with late-stage complications. It occurs in the basal layer of the skin's epidermis or hair follicles. In addition to single basal cell cancer, multiple basal cell carcinomas can occur. According to some authors, single neoplasms account for 96%. multiple of just 2.6%.

Basal cell carcinomas are localized on the head and neck, accounting for 89% of them. On the face in 30% of cases, on the eyelids in 20% of cases and on the neck account for 15%. More often, the nose, cheeks, and forehead are affected, less often the upper lip and lower lip (G. Burg).

10% of basal cell growth occurs in the torso. Treatment of basal cell cancer of the skin is carried out by the removal of surgical or conservative ways. The forecast is favorable. Biotic and abiotic factors influence the appearance of skin pathologies. The impact of the noosphere on changing environmental conditions is very negative. Environmental pollution due to mining steadily leads to an increase in skin diseases, especially basal cell carcinomas. There are a number of factors that statistically increase the likelihood of carcinoma of the skin. These factors of the external and internal environment have an aggressive effect on the skin. When these factors are combined with existing non-cancerous skin lesions, the incidence of skin cancer increases 2-5 times (D.V. Kazacov, M. Michal, D. Kacerovska).

The main risk factors for developing basal cell carcinoma are:

- solar radiation, especially UV rays, which cause burns;
- ionizing radiation and an increase in the radioactive background;
- constant exposure to carcinogenic substances on the skin;
- contamination by processed products (oil refining, coal dumps);
- hypersensitivity with a genetic predisposition;
- skin diseases and reduced immunity.

Numerous statistical studies have been conducted in many countries around the world. Analytical data was transformed into certain patterns. The highest risk of disease is in people who have contact with aggressive substances suspended in the dust, for example, miners. In firefighters, frequent burns provoke basal cell carcinomas. Drivers and oil workers come into contact with petroleum products. Chemical plants increase the risks of direct contact with chemicals, etc. The risk is high in light-skinned people with a small amount of pigment on the skin. Red hair

color and freckles increase the predisposition to basal cell carcinomas (W. Sterry).

It is clear that there are risk groups for this disease. It is necessary to take into account the patient's gender and age, anamnesis, and socioeconomic level. The cytological examination allows us to differentiate the initial stage of cancer of the skin from seborrheic keratosis and other dermatologic pathologies of the skin (G. Burg).

The method of the cytological examination allows for a comprehensive approach to the problem of skin disease. The complex includes screening, prognosis, treatment of skin pathology, and rehabilitation. Unsolved practical problems and differential diagnoses in sufficient oncological alertness, diagnostic and tactical errors require a systematic approach to the study of this pathology.

Low awareness of the population and the epidemiological situation make it difficult to detect skin neoplasms in their own way, especially in the early stages.

During the spread of the pathological process, the detection of precancerous diseases and early forms of skin cancer is of great importance. Many authors believe that the cytological method allows making a correct diagnosis in 95% of cases.

Conclusions.

1. In mining regions, the risk of basal cell carcinoma is higher than in other regions.
2. Skin neoplasms are controlled by genetic predisposition. Therefore, the appearance of genetic signs on the skin depends on environmental conditions.
3. The risk of skin neoplasms increases when the environment is polluted.
4. Statistical analysis showed that more skin basal cell carcinoma occurs in open areas of the body.
5. Cancer of the skin appears after 50 years.
6. Men are more likely to get basal cell carcinoma in mining regions.

Thus, the data of statistical analysis using the cytological method of research allow us to objectively estimate the impact of environmental pollution factors on certain risk groups. Based on the above, we can conclude that preventive measures and early diagnosis of skin malignancies in epidemiologically disadvantaged regions are necessary.

Conflict of interest. The submitted data does not contain a conflict of interest.

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ФАКТОРЫ РИСКА В ВОЗНИКНОВЕНИИ ЗЛОКАЧЕСТВЕННЫХ НОВООБРАЗОВАНИЙ КОЖИ

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За последние 10 лет наблюдается увеличение возникновения злокачественных новообразований кожи, особенно, базально-клеточного рака кожи. В литературе описаны факторы риска, влияющие на появление заболеваний кожи. Многие авторы проводят корреляцию между факторами риска и неоплазмами кожи, но они недостаточно учитывают влияние окружающей среды и эпидемиологических факторов на организм человека. При всем уважении, основным в возникновении и изучении патологий кожи являются эти факторы риска. Был проведен статистический анализ биологического материала по годам. В изучении использовался классический микроскопический метод исследования. Результат цитологического изучения новообразований кожи показал негативный эффект воздействия на возникновение рака кожи. Эти изыскания могут быть использованы для профилактики, прогноза и ранней диагностики базально-клеточного рака кожи.

Ключевые слова: базально-клеточная карцинома, малигнизация, цитология, новообразование, биопсия.