INDICATORS IN UKRAINIAN MEN AND WOMEN WITH URTICARIA

Aladwan A. M. A., Dmytrenko S. V., Belik N. V., Koliadenko S. V., Loboda I. V.
National Pyrogov Memorial Medical University, Vinnytsya (Pyrogov street 56, Vinnytsya, Ukraine, 21018)

Introduction

Urticaria belongs to a heterogeneous group of diseases, which is characterized by the development of an urticarial rash on the skin followed by an angioedema-like process. Acute urticaria is accompanied by the formation of these symptoms in a period of less than six weeks. The induced type of urticaria can have a chronic course. Different forms of dermatosis have certain features in their manifestation. So, for example, delayed urticaria caused by mechanical pressure is characterized by swelling at the point of physical impact and develops several hours after the action of the provoking factor. Sometimes patients with chronic urticaria develop isolated swellings without blisters [1, 21].

According to statistics, about a quarter of the world’s population suffers from the symptoms of this dermatosis. Children and infants under the age of five are more likely to get hives, probably because their immune system is less able to fight off the provoking factors-intervenors. At the same time, only 2-7% are children, the rest is the adult age group [22].

The age of onset of the disease is more than 40 years. Moreover, women are more likely to suffer from urticaria. It is most likely related to hormonal allergies and an autoimmune reaction to estrogen [28].

The danger of the pathology is that Quincke’s edema may occur. At the same time, allergic swelling of the deep layers of the skin occurs, with a feeling of itching, burning or just discomfort. When this swelling is localized in the larynx, the lumen of the respiratory tract is sharply reduced or may completely overlap with a dangerous consequence [12].

Induced urticaria is a term for cases in which triggers have been identified, while spontaneous cases have no known cause. Urticaria and edema can be caused by allergies to smells and food, infectious factors, bad habits, disruption of hormonal metabolism, drugs and household chemicals, nutritional imbalance, water, heat or cold, physical and mental overstrain, sunstroke, adverse ecology, labor conditions [5].

In isolated cases, the hereditary nature of urticaria has been established. The presence of dermatosis in the family history increases the likelihood of its development. Although
not the only factor, genetics play a role in the severity of the condition. Researchers have identified specific genes associated with both acute and chronic cases [25].

Constant contact with provoking factors contributes to the transition of dermatosis into a chronic form. Researchers found a higher frequency of urticaria among people living in densely populated urban areas. This is due to the fact that such a population has an increased chance of exposure to triggers [18, 21].

The relevance of the problem under investigation is substantiated by a steady trend towards an increase in the frequency of urticaria over the last ten years in Ukraine. This is primarily explained by the unfavorable low quality of drinking water and food, environmental factors, uncontrolled use of medicines, and exposure to toxic household chemicals. The high frequency and complexity of differential diagnosis of various forms of urticaria are the main reasons for significant difficulties in the selection of therapy. Urticaria prevention strategies should be planned effectively to reduce the frequency of urticaria and the severity of symptoms. This should include medical evaluations and tests, adapting habits to the patient's lifestyle, identifying, tracking and eliminating triggers, and taking care of physical and mental health [13].

The purpose of the work is to establish the peculiarities of clinical, anamnestic and dermatological indicators in patients with acute and chronic urticaria of a mild and severe course in young Ukrainian men and women.

Materials and methods
On the basis of the Military Medical Clinical Center of the Central Region and the Department of Skin and Venereal Diseases with a postgraduate course at the National Pirogov Memorial Medical University, Vinnytsya, a clinical anamnestic and dermatological examination of 40 Ukrainian men and 40 Ukrainian women of young age (25-44 years according to WHO 2015 age periodization) patients with acute and chronic urticaria of mild and severe course. Committee on Bioethics of National Pirogov Memorial Medical University, Vinnytsya (№ 11 From 23.12.2021) found that the studies do not contradict the basic bioethical standards of the Declaration of Helsinki, the Council of Europe Convention on Human Rights and Biomedicine (1977), the relevant WHO regulations and laws of Ukraine.

B the diagnosis of urticaria was made in accordance with the EAACI/GA²LEN/EuroGuiDerm/APAAACI international guidelines for the definition, classification, diagnosis and treatment of urticaria (https://pubmed.ncbi.nlm.nih.gov/34536239/). According to international guidelines, acute urticaria was diagnosed in patients with disease duration <6 weeks, and chronic urticaria was diagnosed in patients with disease duration >6 weeks. The severity of urticaria was assessed by the sum of points (0-2 - mild degree; 3-4 - medium degree; 5-6 - severe degree), taking into account objective criteria - the number of urticarial elements that appeared on the skin during 7 days and subjective criteria - intensity of itching. All patients underwent a questionnaire in order to determine the nature of work, various negative factors affecting the skin, bad habits and burdened heredity, as well as determining the dermatological status of patients (complaints of itching, burning and pain; localization of skin lesions; presence of urticaria spots, angioedema, red persistent demographism).

To assess the degree of negative impact of urticaria on various aspects of the patient's life, which characterize the quality of his life in general, the Dermatology Life Quality Index (DLQI) was determined [7]. The obtained results were evaluated according to the scale of interpretation: from 0 to 1 point - the skin disease does not affect the patient's life; from 2 to 5 points - slightly affected; from 6 to 10 points - moderately affected; from 11 to 20 points - very strong influence; from 21 to 30 points - extremely strong influence.

Statistical processing of the results of clinical and anamnestic and dermatological indicators was carried out with the help of the "Stastica 6.0" license package. The reliability of the difference in values between independent quantitative indicators was determined using the Mann-Whitney U-test, and between independent percentage values - according to the Weber E. formula:

\[ t = \frac{N_1P_1 + N_2P_2}{N_1 + N_2} \times \frac{100}{N_1 + N_2}, \]

where, \( P_1 \) and \( P_2 \) - percentages of occurrence of the corresponding feature;
\( N_1 \) and \( N_2 \) - the number of observations in the studied groups.

Results. Discussion
The main task of modern dermatology is timely diagnosis and elimination of the etiological factor. It should be noted that the etiology of this dermatological disease is very diverse and according to the works of various researchers, the priority of participation of certain factors in the development of urticaria is quite controversial [2, 5, 9].

When analyzing literary sources, not a single work was found that described the dependence of the frequency of occurrence of urticaria of various forms and the severity of the course depending on the nature of work. In our study, it was established that among men with a physical nature of work, there is a tendency (\( p=0.067 \)) to a higher percentage of patients with acute urticaria of a severe course (50 %) compared to patients with a similar form of dermatosis of a mild course (10 %). Among men with mental nature of work, a slight tendency (\( p=0.077 \) in both cases) was established for a higher percentage of patients with acute urticaria of a mild course (30 %) compared to patients with an acute form of dermatosis of a severe course and a chronic form of dermatosis of a mild course (0 % in both cases). Among women with a mixed nature of work, a significantly (\( p<0.05 \)) higher percentage of patients with chronic urticaria of a mild course (70 %) compared to the
acute form of dermatosis of similar severity (20 %) was established.

A personal history of allergies or previous outbreaks of urticaria increase the overall risk of dermatosis. In addition, allergy and urticaria share common pathogenetic mechanisms. In certain autoimmune disorders, the immune system mistakenly attacks healthy body cells, which can become provoking risk factors for dermatosis; this is especially true for thyroid diseases and rheumatoid arthritis [1, 21]. Urticaria caused by immunoglobulin E and non-immunoglobulin E-mediated release of histamine and other inflammatory mediators by mast cells and basophils usually presents with severe itching, sometimes with subcutaneous or interstitial edema. Although it is often a self-limited and benign process, the disease can cause significant discomfort and last from months to years. A number of scientists [1, 2, 21] found a predominance of anaphylaxis have been documented in patients with severe allergies. Also, more than 60 % of cases of respiratory allergies and urticaria, associated with certain symptoms such as rhinoconjunctivitis, asthma, urticaria, gastrointestinal symptoms or even anaphylactic shock. As an exception, only in patients under the age of 15, allergies are more often diagnosed in men. At a later stage of life, women are clearly more likely to suffer from respiratory allergies and urticaria. In addition, there was a 60:40 ratio of female to male patients with severe allergies. Also, more than 60 % of cases of predominance of anaphylaxis have been documented in male patients [11]. We found a slight tendency (p=0.077) to a higher percentage of patients with acute urticaria of a severe course (30 %) compared to a similar form of dermatosis of a mild course (0 %).

Sensitization to allergens occurs quietly and without the knowledge of the patient, while the effector phase is associated with certain symptoms such as cholinergic urticaria, which is more pronounced in both adult men and children. S. Wertenteil, A. Strunk and A. Garg [28] also found that in adults, all types of urticaria are more common in women than in men, with the exception of cold urticaria, which is more pronounced in both adult men and children. S. Wertenteil, A. Strunk and A. Garg [28] established that women over 20 years of age suffer from urticaria caused by heat and cold at least twice as often as men of the same age. Actually, the results of our research differ from the data of foreign colleagues. Among men with acute urticaria of a mild course with the presence of a temperature factor, a tendency (p=0.067) was established for a higher percentage of individuals (90 %) compared to women of the same comparison group (50 %). This may be related to social and everyday aspects, such as the specifics of work, living conditions, physical activity, etc.

Most forms of urticaria are chronic, persistent and often last from several years to decades. Up to 40 % of patients suffering from chronic urticaria for more than 6 months, according to Y. Rosman et al. [20], will have seasonal urticaria after 10 years. It is impossible to speak for exclusively seasonality regarding the cause of the acute form of dermatosis, because acute urticaria is a disease that lasts less than 6 weeks. The underlying cause can be determined in approximately 15-20 % of cases. However, in most patients with chronic urticaria, which persists for more than 6-8 years, the main cause of the disease can be determined much more often (65-68 %) [13]. That is why, in our study, there are practically no patients with a seasonally dependent form of acute dermatosis. Among male patients who had an aggravating medical history due to the seasonality factor, a slight tendency (p=0.077) was found for a higher percentage of patients with chronic urticaria of a mild course (30 %) compared to patients with an acute form of dermatosis of a similar course (0 %). Among sick
women, in whom the development of symptoms of urticaria was probably associated with seasonality, a significantly (p<0.05) higher percentage of patients with severe chronic urticaria (40 %) compared to patients with an acute form of severe dermatosis (0 %); and the percentage of women with mild chronic urticaria (30 %) has a slight tendency (p=0.077) to be higher compared to patients with acute mild dermatosis (0 %).

Aquagenic urticaria is a form of induced dermatosis in which contact with any source of water, regardless of its temperature or pH, causes small itchy swellings surrounded by foci [27]. The diagnosis is based on the anamnesis, the results of a water provocation test and is often easier compared to other forms of urticaria. Given the fact that the humidity factor is one of the most frequent provoking factors, contact with water is practically inevitable in many spheres of human activity, and urticaria “manages” to manifest itself as an acute or chronic form of dermatosis [24]. Among male patients, in whom the development of symptoms of urticaria was probably related to the presence of the moisture factor, we reliably (p<0.05) found a higher percentage of patients with chronic urticaria of a mild course (90 %) compared to patients with a chronic form of severe dermatosis (30 %) and with patients with an acute form of mild dermatosis (30 %). Among female patients, in whom the development of symptoms of urticaria was probably associated with the presence of the humidity factor, a higher percentage of patients with acute urticaria of a mild course (60 %) was found to be reliable (p<0.05) compared to patients with a chronic form of dermatosis of a mild course (10 %).

The available scientific literature shows the predominance of women over men in terms of the frequency of occurrence of aquagenic urticaria [26]. In our study, on the contrary, among men suffering from mild chronic urticaria, in whom the development of urticaria symptoms was probably associated with the presence of the moisture factor, a significantly (p<0.01) higher percentage of men (90 %) compared to women of a similar comparison group (10 %).

An episode of urticaria caused by air pollution can last from a few minutes to a few hours or years. Symptoms usually disappear on their own after stopping its use. The long-term prognosis of air-induced urticaria varies widely. Sometimes the condition stops occurring after a few years, but it can last for a long time. Many people cope well with this condition by changing their lifestyle regardless of the form of dermatosis and gender [15]. Based on the presence of the air factor, we also did not establish reliable differences or trends between men and/or women with different forms and degrees of severity of urticaria.

Despite the extensive use of cosmetics, most people are unaware of its side effects. It is believed that about 95 % of women and 75 % of men used cosmetics every day. Urticaria has a more severe course and a more common side reaction caused by cosmetics, especially in women due to its more frequent use [12]. Thus, among women patients with acute urticaria of a severe course, in whom the development of symptoms of the disease was probably associated with the presence of a factor of a chemical substance or cosmetics, we established a significantly (p<0.05) higher percentage of people (60 %) compared to men of a similar comparison group (10 %).

Solar urticaria is a chronic acquired photosensitivity disorder. It consists of recurring episodes of hives on areas of the skin that are exposed to sunlight. Although usually a benign condition, it can be extremely disabling as the severity of the course increases over the years, limiting daily activities and severely altering patients’ quality of life [10]. That is why the percentage of patients with the chronic form of this dermatosis is much higher than the similar indicator for the acute form. All skin types and ethnic groups are affected worldwide, slightly more commonly in women than in men [19]. In our study, among sick women, in whom the development of symptoms of urticaria was probably associated with the presence of the insolation factor, a higher percentage of patients with chronic urticaria of a mild course (60 %) compared to patients with an acute form was established reliably (p<0.05) mild dermatosis (10 %) and a slight tendency (p=0.077) to higher values in women with chronic severe dermatosis (30 %) compared to patients with acute urticaria of similar severity (0 %). However, among men with acute urticaria of a severe course, in whom the development of urticaria symptoms was probably associated with the presence of the insolation factor, a significantly (p<0.05) higher percentage of individuals (40 %) compared to women of the same comparison group was found (0 %).

According to the presence of the factor of hormonal changes, we did not establish any reliable differences or trends between women with different forms and degrees of severity of urticaria. This is explained by the fact that dermatosis can be associated with some diseases and conditions characterized by hormonal changes, including endocrinopathy, the menstrual cycle, pregnancy, menopause and the use of hormonal contraceptives or hormone replacement therapy, and there is no clear dependence on the severity of the manifestation and the form of dermatosis [3].

Rashes in the form of urticaria can appear from 1-2 hours to 15 days after oral administration of drugs. Rashes appear faster with intravenous administration of drugs than with oral administration, and most often this form of dermatosis takes on a severe course [16]. Similarly, in our study, among sick women in whom the development of symptoms of urticaria was probably related to the presence of the factor of taking medication, a higher percentage of patients with acute urticaria of a severe course (40 %) compared to patients with a similar form of mild dermatosis (0 %). Also, among women patients with acute urticaria of a severe course, in whom the development of urticaria symptoms was probably associated with the presence of
the factor of taking medication, a significantly (p<0.05) higher percentage of people (40 %) compared to men of the same group was found comparison (0 %).

According to the presence of the food factor, bad habits and burdened heredity, no reliable differences or trends have been established between men and/or women with different forms and degrees of severity of urticaria.

Manifestations of urticaria may vary from person to person. Sometimes a rash and swelling can appear for a short time and disappear quite quickly. But most often they disappear in one place and appear in another area. At the same time, urticaria is often accompanied by severe itching or even a burning sensation and pain. If the rash covers deep tissues, hands, eyelids, limbs, tongue and genitals, such course of dermatosis is considered severe [23].

According to the presence of pruritus, we did not establish reliable differences or trends between men and/or women with different forms and degrees of severity of urticaria. However, among women patients with burning sensation in the area of skin lesions, a significantly (p<0.01) higher percentage of patients with acute urticaria of a severe course (100 %) compared to patients with a similar form of dermatosis of a mild course was established (30 %).

Among male patients with pain in the area of skin lesions, a significantly (p<0.05-0.01) higher percentage of patients with acute (60 %) and chronic (70 %) urticaria of a severe course compared to patients with similar forms of dermatosis of a mild course was established (respectively 0 % and 10 %). Also, among female patients with pain in the area of skin lesions, a significantly higher percentage (p<0.01 in both cases) of patients with acute (70 %) and chronic (60 %) severe urticaria compared to patients with similar forms of mild dermatosis was found (0 % in both cases).

Among sick men with localization of skin lesions on the scalp, a significantly higher percentage (p<0.05) of patients with severe chronic urticaria (40 %) compared to patients with acute severe dermatosis (0 %) was found; and among sick women with localization of skin lesions on the scalp, a significantly (p<0.05) higher percentage of patients with acute urticaria of a severe course (40 %) compared to patients with a similar form of dermatosis of a mild course (0 %). In addition, among women patients with acute urticaria of a severe course with localization of skin lesions on the scalp, a significantly (p<0.05) higher percentage of people (40 %) compared to men of the same comparison group (0 %) was found.

Among male patients with localization of skin lesions on the face, a tendency (p=0.067) was established for higher values in patients with a chronic form of dermatosis of a mild course (50 %) compared to female patients with an acute form of urticaria of similar severity (10 %).

Among male and female patients with lesions localized on the mucous membrane, a significantly higher percentage (p<0.05-0.01) of patients with acute urticaria of a severe course (40 % and 60 %, respectively) compared to patients with an acute form of mild dermatosis (0 % in both cases).

According to the localization of skin lesions on the trunk, no reliable or trending differences between men and/or women with different forms and degrees of severity of urticaria were established.

Among male patients with localization of skin lesions on the extremities, a significantly higher percentage (p<0.05) of patients with severe chronic urticaria (100 %) compared to patients with mild chronic dermatosis (60 %) was found. Among female patients with localization of skin lesions on the extremities, a significantly higher percentage (p<0.05) of patients with mild acute urticaria (80 %) compared to patients with chronic mild dermatosis (30 %) was found. Also, among male patients with localization of skin lesions on the extremities, a slight tendency (p=0.077) was established for higher values of the percentage of patients with severe chronic urticaria (100 %) compared to women with a similar form and severity of dermatosis (70 %).

According to the presence of urticarial spots on the skin, no reliable or trend differences were established between men and/or women with different forms and degrees of severity of urticaria.

If the rash affects deeper tissues, the patient may develop angioedema, which can develop rapidly. At the same time, there is a tightening of the skin, when pressing on the soft tissues, a dent is noted. Especially dangerous is damage to the respiratory organs, which requires urgent medical assistance [12].

Among sick men with the presence of angioedema of the skin, a significantly higher percentage (p<0.05-0.01) of patients with acute (100 %) and chronic (90 %) severe urticaria compared to patients with similar forms of mild dermatosis (respectively 30 % and 40 %). Also, among sick women with the presence of angioedema of the skin, a significantly higher percentage of patients with acute (90 %) and chronic (100 %) urticaria of a severe course was established (p<0.01 in both cases) compared to patients with similar forms of dermatosis of a mild course (10 % and 20 %, respectively).

According to the presence of red persistent dermographism, no reliable differences or trends were established between men and/or women with different forms and degrees of severity of urticaria.

The Dermatology Quality of Life Index is used in clinical trials to determine the psychological impact of skin conditions and the benefits of treatment. This method includes a survey on regular use and quality assessment of patients with dermatological diseases. L. Lugovic-Mihic and others [17] significantly higher values of this indicator were recorded in patients with a severe course of atopic dermatitis compared to patients with a mild course of the disease. A significant number of patients with high scores experienced anxiety, insecurity, and the impact of the disease on leisure time.

Both among sick men and among sick women, we
established a significantly (p<0.001 in all cases) higher value of the dermatological quality of life index in patients with acute (17.70±4.97 and 20.30±3.53 points, respectively) and chronic (18.80±4.85 and 22.80±3.49 points) severe urticaria compared to patients with acute (respectively 7.600±2.066 and 8.100±2.514 points) and chronic (respectively 9.400±2.221 and 9.000±2.667 points) forms of mILD dermatosis. Also, a significantly (p<0.05) higher value of the dermatological quality of life index (22.80±3.49 points) compared to men of the same comparison group (18.80±4.85) was found among women with severe chronic urticaria.

Thus, the above comparative analysis of the priority of factors between persons with a severe and mild course, in turn, contributes to the effective control of an active disease and the creation of conditions for a long period of remission in this disease. The study of these factors allows you to prevent the transition of an acute form of urticaria into a chronic one, which will be much more difficult to get rid of without timely diagnosis and treatment. Most of these factors are well modifiable both in the social and household aspect, and in the preventive and organizational aspect, which allows to achieve control over the symptoms of urticaria and increase the quality of life of patients, guided by their gender characteristics.

**Conclusion and prospects for further developments**

1. The obtained results revealed that, regardless of the form of urticaria (acute or chronic course), among patients with a severe course, the following prevail: men who have a physical nature of work, an allergic reaction, a stress factor in the anamnesis, pain in the area of skin damage, on the mucous membrane, on the extremities, there is angioedema of the skin and a higher value of the dermatological index is noted, as well as women who have an allergic reaction and there is a factor of taking drugs, there is pain in the affected area of the skin, on the scalp and mucous membrane, there is angioedema skin and a higher value of the dermatological index is noted. Among patients with a mild course, the following predominate: men, who have the mental nature of work and the presence of the humidity factor, and women with the insolation factor.

2. Among patients with the acute form of urticaria, there is a predominance of men who have the mental nature of work and women with the presence of the humidity factor, a burning sensation in the affected area of the skin and on the limbs. Among those suffering from the chronic form, the following predominate: men with the presence of an allergic reaction, with the presence of a seasonality factor, with localization of skin damage on the scalp and skin on the face, and women with a mixed nature of work, a seasonality factor, insolation.

3. In men, compared to women, the factors of temperature, humidity and insolation and the existing localization of skin lesions on the extremities are priorities. In women, allergic reactions, chemicals or cosmetics, medication, localization of skin lesions on the scalp and a higher value of the dermatological index prevail more often as factors.

4. In further research, it is planned to study the phenotypic predictors of the occurrence and features of the course of urticaria, as which constitutional features of the human body will be used.

**References**


ОСОБЛИВОСТІ КЛІНІКО-АНАМНЕСТИЧНИХ ПОКАЗНИКІВ У ХВОРИХ НА КРОПИВ'ЯНКУ УКРАЇНСЬКИХ ЧОЛОВІКІВ І ЖІНОК

Алдаанов А. М. А., Дмятренко С. В., Белік Н. В., Коліденко С. В., Лобода І. В.

Анотація. Основою реалізації оптимальної профілактики кропив'янки у більшості випадків є встановлення точних причин даного захворювання, що є досить складною задачею. За останні роки вивчено багато досліджень, які підтвердили багато особливостей патогенезу кропив'янки. На основі навчального дослідження нами проведено клініко-анамнестичне дослідження особистих даних хворих на кропив'янку.

Ключові слова: кропив'янка, патогенез, дослідження, особливості, генезис, вплив, морфогенез.

До показників, які потребують уваги:

1. Кропив'янка в основному характеризується звестою алергією, що з'являється в результаті прийому ліків, інсоляції, навіть в умовах невідомих інтересних факторів.

2. В рамках цього дослідження встановлено особливості патогенезу кропив'янки, які відрізняються від усіх інших типів екзантем.

3. Хворі на кропив'янку використовують різноманітні методи профілактики, які можуть бути використані в практиці.

4. Бажано проводити регулярну оцінку стану хворого і проводити слідчі дослідження, щоб утримувати зниження інтенсивності симптоматики.

У результаті проведених досліджень встановлено, що незалежно від форми кропив'янки у хворих із тяжким перебігом захворювання зростає частота представників, які страждають від зв'язок алергії. На основі наведених даних, можна зробити висновки про можливість впливу факторів на розвиток даного стану.

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