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Development of Novel Strategies in Management and Prevention of Psoriatic Disease Exacerbation

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Abstract

Introduction: The primary choice of topical corticosteroids in the treatment of the progressive stage of psoriasis is due to their pronounced anti-inflammatory, anti-spasmodic, anti-proliferative, anti-allergic and immunosuppressive effects. The usage of topical corticosteroids have a complex effect on different pathogenetic parts of psoriasis which needs more interpretation.

Aim: The purpose of our work was to identify effective methods for the prevention and treatment of psoriatic patients.

Methods and materials: We included 65 patients with psoriasis aged 45 to 64 years in the study. The control group consisted of 40 healthy individuals of similar age. Patients with psoriasis were divided into 2 groups. The first group (28 people) received basic treatment of the disease approved by the Ministry of Health of Ukraine, using the topical treatment with corticosteroids and third class activity drugs. The second group (37 patients) received similar basic treatment, but as a means of external therapy - clobetasol propionate. Assessment of quality of life in patients with psoriasis generally conducted by questionnaire DLQI. We used ukrainian version of the PASI index.

Results: We evaluated the severity of psoriasis in patients. Thus, in patients examined at baseline PASI index averaged17,1 ± 0,71points, and the index was BSA 22,1 ± 1,88%. Scoring change in the nail plate before treatment averaged 0,25 ± 0,03 points, and scoring excoriation was 0,34 ± 0,08 points. In addition, patients with psoriasis skin itch intensity was assessed a 10-point visual analogue scale. On average, they estimated itching to 4,48 ± 0,51 points.

Conclusions: These data suggest a significant positive effect on the use of topical corticosteroid clobetasol propionate how to reduce the clinical manifestations of psoriasis and indirectly to improve the quality of life, reduce anxiety, depression and neurotic patients.

Key Words
Psoriatic Disease; Prevention; Treatment; Topical Corticosteroids; Quality of Life

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Introduction

To date, psoriasis is one of the most urgent medical and social problems. The consequence of the disease on psoriasis is a significant decline in the quality of life, disability and disability of the patients, difficulties in creating a family and worsening family relationships, significant psychological discomfort.

The prevalence of psoriatic disease in the population is rather high and, according to various authors[1], is 0.1 to 3% of the world's population. In the general structure of morbidity with dermatological diseases, the specific weight of patients with psoriasis is 8-15%, and among stationary patients, the skin sections of dispensaries - from 7 to 22%[2, 3]. In Ukraine, in recent years, there has been an increase in the incidence of psoriasis. Also increases the number of patients with severe disabling forms of psoriatic disease, resistant to various methods of therapy[4,5]. This is due to many factors, including urbanisation and negative environmental impact, especially among inhabitants of large industrial cities, environmental or social disadvantages (chronic stress), the widespread use of chemical products by man, xenobiotics, malnutrition[6, 7, 8] At the same time, the pace of man-made changes in the biosphere is ahead of the adaptive capacity of the human body and require more and more strain of adaptive mechanisms.

There are numerous theories of psoriasis, but none of them can be the only cause. The main theories of the emergence and development of psoriatic disease are: genetic, neurogenic, infectious, parasitic, viral, endocrine-metabolic and others. However, the emergence and progression of psoriatic disease play

a role and many other trigger factors, most of which require appropriate research to further develop measures to control psoriasis.

To date, there are many classifications of psoriatic disease, depending on clinical manifestations, course, degree of severity of the disease. Allocate plaque and non-stick forms of psoriasis, as well as out-of-skin forms of psoriatic disease. To plaque forms include vulgar, inverse, exudative, intertriginous psoriasis, psoriasis of the scalp, psoriasis of palms and soles. Non-block forms of psoriasis include droopy psoriasis, follicular psoriasis, psoriatic erythroderma, pustular psoriasis. Psoriatic arthritis, nail psoriasis, lesions of the mucous membranes, and internal organs form out-of-skin forms of psoriatic disease.

Each of the forms and stages of psoriatic disease requires a certain treatment tactic, which will lead to regression of rash and without any systemic and local side effects. Standard treatment for psoriasis is approved by the Order of the Ministry of Health of Ukraine dated May 8, 2009, No. 330 "On Approval of Clinical Protocols for the Provision of Medical Aid to Patients with Dermatovenereological Diseases" and includes diet No.15, sedatives, anti-stress adaptogens, tranquilizers (if necessary), detoxification agents, vegetotropic (25% magnesium sulfate), hyposensibilizing drugs (sodium thiosulfate, calcium gluconate, magnesium sulfate), antihistamines, drugs that improve peripheral blood Big hepatoprotectors, vitamins (A, E, C, B), non-specific stimulant therapy, physical therapy measures, in severe cases - cytostatics and Immunosuppressants[9]. External treatment of psoriatic rashes is, first of all, in applying to the affected areas of skin topical corticosteroids, in some cases, in combination with keratolytics. Subsequent topical therapy includes the use of indifferent creams (for example, Delaskin cream) or preparations containing keratolytic agents, namely urea 10-12% (for example, ureotope ointment).

The primary choice of topical corticosteroids in the treatment of the progressive stage of psoriasis is due to their pronounced anti-inflammatory, anti-spasmodic, anti proliferative, anti-allergic and immunosuppressive effects. Thus, proving that the topical corticosteroids have a complex effect on different pathogenetic parts of psoriasis. The mechanism of anti-inflammatory, anti-proliferative and immunomodulatory action for all corticosteroids (according to generally accepted ideas) in the schematic simplified form can be represented as follows: corticosteroid molecules form complexes with corticosteroid receptors of cells - bind to separate genes of hormone-reflexive elements. This induces the transcription of specific m-RNA molecules that take part in the synthesis of lipocortin-proteins on ribosomes. Lipocortins inhibit reactions that arise in the case of physical, chemical, toxic, immunogenic effects or microbiological pathogen exposure that occur between phospholipase A2 and phospholipids and provide release of arachidonic acid. Delay or inhibition of the process of release of arachidonic acid normalises, reduces or blocks the release of prostaglandins, leukotrienes, FAT and thromboxanes, which act as inflammatory mediators on vessels, leukocytes, macrophages, their chemotaxis, and migration[10, 11].

One of the important effects of topical corticosteroids is the increased binding of histamine and serotonin to the skin and a decrease in the sensitivity of nerve endings to neuropeptides and histamine. In addition, corticosteroids have anti-mitotic effects and inhibit the synthesis of nucleic acid and protein, suppressing the proliferation of the epidermis and stabilising parakeratosis. Topical corticosteroids also inhibit collagen synthesis and proliferation of fibroblasts, stabilise membranes of migrating immunocompetent cells, tissue basophils and endothelium, suppress the migration of eosinophils and proliferation of T-lymphocytes.

According to the European classification of topical corticosteroid activity, the first proposed by J. A. Miller, D. D. Munro, there are four classes of topical corticosteroids: I with the lowest activity, IV with the highest activity. In this case, one of the main principles of topical corticosteroid therapy is to favour the short-term use of strong topical corticosteroids before prolonged use of weak topical corticosteroids of the 1st and 2nd grade. In addition, it is best to prescribe long-acting drugs that can be used once a day, which will increase compliance and, accordingly, the effectiveness of therapy. Thus, the most suitable for use in patients with psoriatic disease is a topical corticosteroid of the IV class - clobetasol propionate.

However, it should be kept in mind that the effectiveness of the treatment of steroid susceptible dermatoses depends not only on the choice of the optimal active ingredient, but also on the use of the appropriate form of drug release according to the clinical picture of the disease. After all, the choice of inappropriate form of the drug may lead to ineffective therapy and possible side effects. The depth of penetration of topical corticosteroids is maximal when applied in the form of ointments, much less - in the form of a cream and completely insignificant in the form of a solution. According to the basic principles of therapy with topical corticosteroids, in the chronic course of psoriasis, it is recommended to give preference to ointment

forms, with acute inflammatory process - creams, for application on the scalp of the head - to solutions.

Unfortunately, most manufacturers of topical corticosteroids prefer to release one to two main forms of the drug (most often it is a cream and ointment), without taking into account the needs of persons with severe course of chronic dermatoses (with pronounced lichenification, dryness, peeling of the skin), and also those with defeat the hair part of the head (Figures 1, 2).

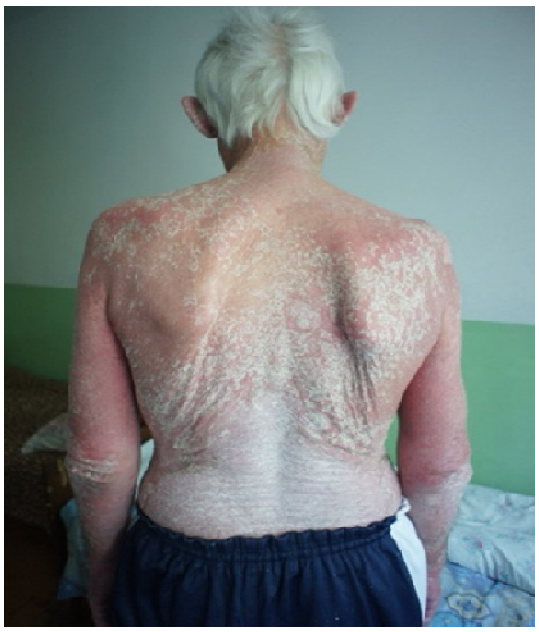

Figure 1: Patient K. plaque form of psoriasis

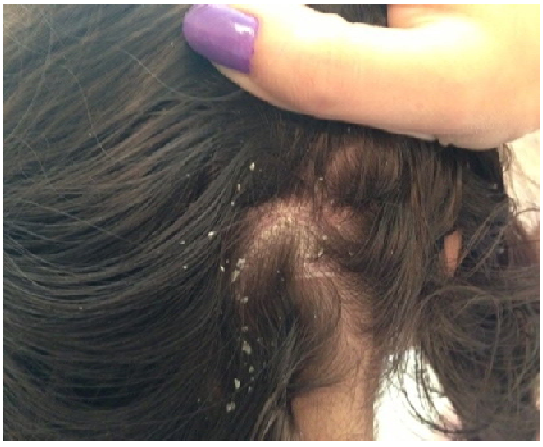

Figure 2: Patient S. psoriasis of the scalp

Consequently, the topical corticosteroid , which is represented by a full spectrum of forms of release necessary for clinical practice - solution, cream, ointment, oily ointment, is of great benefit. The presence of these forms of the drug clobetasol propionate provides the opportunity to choose at different stages of the inflammation process and damage to various areas of the skin.

However, given that clobetasol propionate is the topical corticosteroid with the highest activity, it should adhere to the established rules and doses when applied:

1. clobetasol propionate should be applied once a day, with a thin layer;
2. the total area of application should not exceed 20% of the entire surface of the body;
3. the course of treatment is no more than 2-3 weeks.

Compliance with these rules will prevent possible side effects and provide high effectiveness of therapy for psoriasis and other steroid-sensitive dermatoses.

However, psoriasis is a chronic recurring disease that requires not only an adequate clinical picture of systemic and topical treatment, but also the use of certain preventive measures. To date, the basic etiological factors and pathogenetic links of psoriatic disease have been investigated. However, insufficient attention is paid to the risk factors of exacerbations of psoriasis and the possibility of avoiding them.

Aim

The purpose of our work was to identify effective methods for the prevention and treatment of psoriatic patients.

Materials and Methods

We included 65 patients with psoriasis aged 45 to 64 years in the study. The control group consisted of 40 healthy individuals of similar age. Patients with psoriasis were divided into 2 groups of therapeutics:

The first group (28 people) received basic treatment of the disease which was approved by the Ministry of Health of Ukraine using the topical treatment with corticosteroids and third-class activity drugs;

The second group (37 patients) received similar basic treatment, but as a means of external therapy - clobetasol propionate. If a large number of dense layers of dry scales on the surface of the "old" psoriatic plaques (Figure 3) on the affected skin, ointment clobetasol propionate was applied. The presence of typical psoriatic plaques with signs of moderate or severe infiltration and silvery white peeling (Figure 4) was the indication for clobetasol propionate ointment. In acute inflammation with lesser signs of infiltration and peeling of the skin (Figure 5) clobetasol propionate cream was used. In the presence of psoriatic lesions of the scalp (Figure

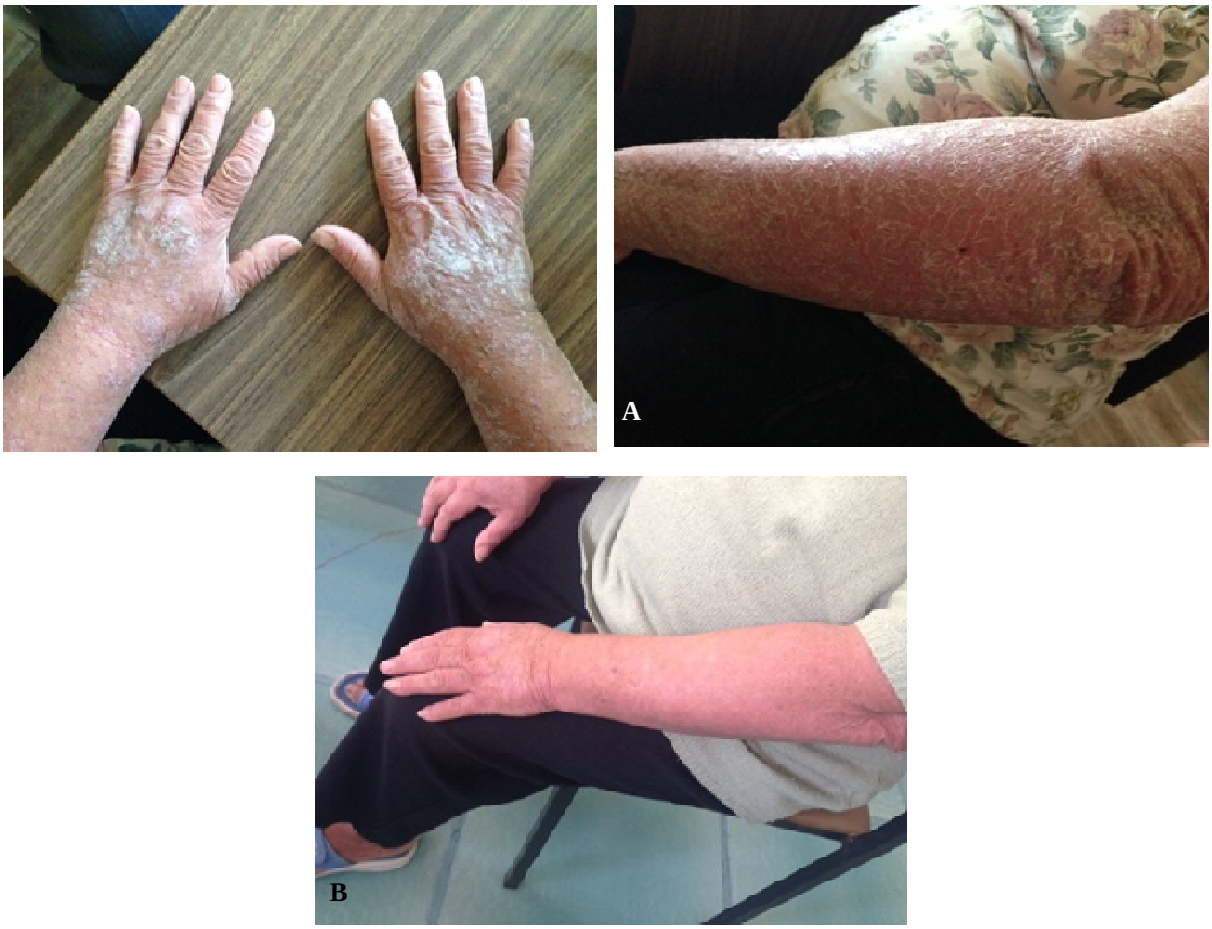

Figure 3: Patient B. plaque form of psoriasis, and, a- before treatment, b- after the topical treatment of psoriatic lesions on the upper extremities oily ointment Clobetasol propionate.

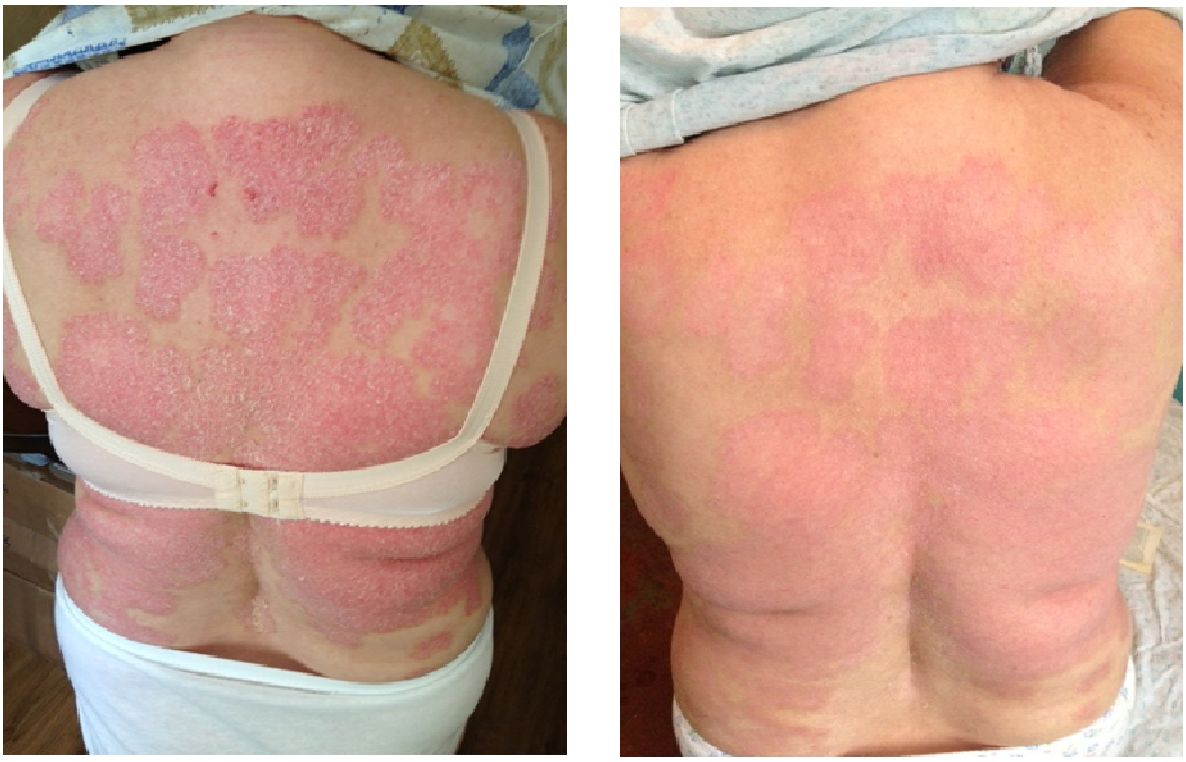

Figure 4: Patient A. plaque form of psoriasis: a - before treatment, b - after topical treatment of psoriatic lesions on the back ointment Clobetasol propionate.

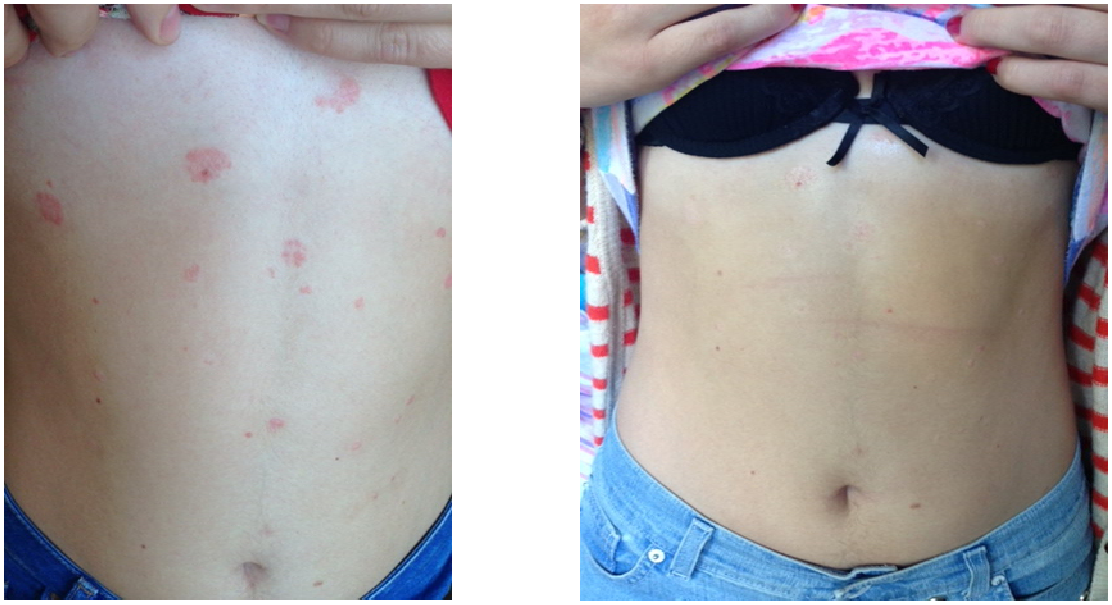

Figure 5: Patient N. Nummular form of psoriasis: a - before treatment, b - after topical treatment of psoriatic lesions on the trunk cream Clobetasol propionate.

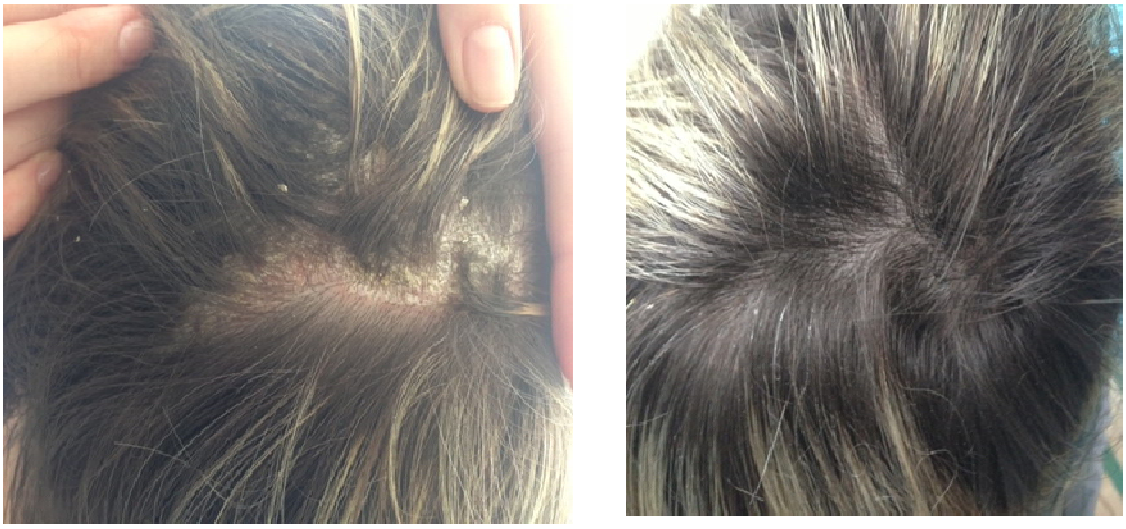

Figure 6: Patient S. scalp psoriasis: a - before treatment, b - after external treatment solution clobetasol propionate.

6) clobetasol propionate solution was used. The drug regardless of its form, it was used 1 time per day, a thin layer was applied. The term use defined individually depending on clinical disease and its changes in the dynamics of treatment, did not exceed 20 days.

The patients were assessed on the severity of psoriasis. We evaluated the prevalence of psoriatic process in a standardised index BSA, which determines the percentage of affected psoriasis body surface and install the seriousness of psoriatic disease index PASI, which determines the severity (erythema, infiltration and desquamation) and the affected area individually in 4 zones (head and neck, upper limbs, trunk, lower limbs)[13]. PASI index changes during treatment is an objective indicator of the results of therapy. Therefore, to assess the effectiveness of our proposed treatment of psoriasis defined percentage reduction index PASI (Δ PASI,%), ΔPASI-50 (which corresponds to a reduction of the index PASI 50%).

Assessment of the severity of itching skin held a ten visual analogue scale where 0 points - a total absence of itching, and 10 points - its maximum intensity. In addition, an assessment was objective evidence that itch like excoriation and nail plate changes (their polished surfaces, thinning of the free edge). Each objective evidence of pruritus was assessed us point scale, where 0 points - the lack of signs, 1 point - its weak expression, 2 points - moderate severity, 3 points - a significant expression.

In order to establish mental characteristics and

psychological state of patients with psoriasis, we have conducted a survey using standardised questionnaires and developed personally. We have developed a questionnaire containing questions about education, social status, presence of occupational hazards, stress at work, smoking cigarettes, drinking alcohol, marital status, psychological climate in the family, living conditions, the average income for a family member, dietary habits (consumption of milk and dairy products, fish and seafood, meat and meat products, fruits and vegetables, pasta and potatoes), vitamins, self-assessment of health status, care about their health.

Assessment of quality of life in patients with psoriasis generally conducted by questionnaire DLQI. Changes index DLQI the treatment is an objective indicator of the results of therapy.Therefore, to assess the effectiveness of treatment of psoriatic disease defined percentage reduction index DLQI (Δ DLQI,%)[14].

Changes in mental status was showed in men using the questionnaires. The level of anxiety was studied on a scale self Spielberger-Hanin. This test is a reliable and informative method of self-assessment of situational (reactive) anxiety (anxiety in a given time)[15, 16]. The results measured in points.

The level of neuroticism assessed by the method of diagnosing L. Wassermann. For the purpose of scoring neuroticism, 40 judgments and situations were provided and studied how patients responded to them positively or negatively. After that interpretation of neuroticism levels were made. High levels of neuroticism indicate a strong emotional excitability. Low levels of neuroticism, by contrast, speaks of emotional stability, positive feelings background (calm, optimism), as well as initiative, independence, a sense of dignity and ease in communication[17].

In addition, the survey was conducted using a questionnaire "Beck Scale for severity of depression, self-esteem," which consisted of 21 groups allegations[16]. Each group had to choose the one that best reflected the health of the person included in the study. This made it possible to identify states sub-depression and depression in patients. Also it is important to assess how cognition is affective with the somatic component of depression due to two sub scales of Beck.

All the received data in the work was processed statistically. In order to compare the indicators in the groups for recovery and after healing, Student-t test or the criterion of Wilcoxon's signed rank test depending on the normality of the distribution of the differences in the SPSS software were applied. Normality of data distribution was verified using the Shapiro-Wilk criterion at the significance level of 0.01. In the application of all statistical methods, in addition to the Shapiro-Wilk criterion, the significance level was taken to be $P<0.05$.

Results

Through the survey we found that among patients, those with psoriasis had a greater number of people who believe their relationship in the family poor and noted the adverse psychological climate in the family. If healthy individuals psychological climate in the family considered unfavourable 16.3% of respondents, among patients with psoriasis, this percentage is 21.9% of cases. Frequent stress at work were more predominantly in patients with psoriasis (at 39.4%) compared with the group of healthy persons (26.5%).

Patients with psoriasis are more likely than in the population as a whole met habits. For example, among patients with psoriasis 50.1% smoked cigarettes, and among healthy individuals 41.4% were smokers. A similar trend was noted and other bad habits - drinking alcohol. Among patients with psoriasis 26.6% weekly or more frequently consumed alcohol. At the same time among healthy individuals 18.3% compared often used alcohol.

We also paid attention to healthy eating habits in people with psoriasis. As a result, the survey found that patients with psoriasis are rarely consumed dairy products. Thus, only 18.6% of patients consumed dairy products more than 2 days a week. Among healthy individuals percentage of persons for more than 2 days per week consumed dairy products amounted to 25.2%. Most patients with psoriasis rarely ate fish and seafood - 72.1% ate fish and seafood only 1-2 days per week or no take. The percentage of persons who are 5-7 days per week ate fish and seafood among patients with psoriasis was low at 5.1%. In patients with psoriasis also experienced the lowest percentage of people who 5 -7 days a week, ate meat and meat products - 16.3%. Less than 3 days a week meat and meat products consumed 31.9% of patients with psoriasis and 22.1% of healthy individuals. It should be emphasised that patients with psoriasis had insufficient food and use fruits and vegetables. Fruits and vegetables were consumed by 29.7% of healthy people and only 20.1% of patients with psoriasis for 5-7 days a week; 58.4% of patients 5-7 days per week ate pasta and potatoes. Infrequent eating of pasta and potatoes (1-2 times per week or complete rejection of them) were reported in 9.6%

of healthy people and only 2.1% of patients with psoriasis. While questioning can not be too careful to characterise the nutritional status, but traced a clear trend towards imbalance in receipt of food ingredients with a prevalence of receipt of carbohydrates and not enough protein and vitamins use in patients with psoriasis.

An interesting fact was that despite their health, more than half of patients with psoriasis only occasionally takes care of their health. Constant care about their health shows only 18.7% of patients. The percentage of people who do not care about their health status among patients with psoriasis is 31.3%.

Improper care of their health, lack of nutrition, frequent stress at work and the adverse psychological climate in the family and habits may contribute to the development of psoriatic disease and therefore can be considered as possible risk factors of psoriasis. That is why they need to conduct appropriate correction - changes in lifestyle, smoking cessation cigarettes and drinking alcohol, move to a balanced diet, eating vitamins (especially, biotin and Dexpanthenol) avoidance of stress or psychological training to improve stress resistance.

We evaluated the severity of psoriasis patients. Thus, in patients examined at baseline PASI index averaged 17,1 ± 0,71points, and the index was BSA 22,1 ± 1,88%.

Unlike healthy people, some patients with psoriasis in clinical examination were found with objective evidence itching, excoriation such as nail plate and change (their polished surfaces, thinning of the free edge). Scoring changes in the nail plate before treatment averaged 0,25 ± 0,03 points, and excoriation score was 0,34 ± 0,08 points. In addition, patients with psoriasis skin itch intensity was assessed a 10-point visual analogue scale. On average, they estimated itching to 4,48 ± 0,51 points.

The deterioration of the skin in general, the presence of pathological lesions on the skin, subjective evidence of disease in the form of itching leads to reduced quality of life in patients with psoriasis. This caused the growth in the DLQI index. On average DLQI index in patients with psoriasis before treatment was12,2 ± 0,24points.

In the study, we also paid great attention to the definition of psychological features of patients with psoriasis. Our results are given in Table. 1. As the table shows, the average value of the integral index

Indexes:	The control group	Patients before Treatment	Patients after treatment:	
			First group	The second group (using clobetasol propionate)
The level of situational anxiety on a scale Spiel-berger-Hanin, points	40,2 ± 0,21	46,1 ± 0,33Δ	45,7 ± 0,5	45,2 ± 0,2 *∉
The level of neuroticism by Wassermann, points	5,58 ± 0,23	13,9 ± 0,31Δ	12,6 ± 0,42	11,9 ± 0,38 *∉
The level of depression on the Beck scale, scores	6,23 ± 0,32	11,5 ± 0,29Δ	10,1 ± 0,51	9,97 ± 0,30 *

Table 1: Levels of situational anxiety, depression and neuroticism in the dynamics of treatment

Notes: Δ - significant difference (P <0.05) when compared to the corresponding rates in patients with psoriasis to treatment and control groups; * - significant difference (P <0.05) when compared with those of a group of patients to treatment;∉ - significant difference (P <0.05) when compared with those of patients in the first group after treatment.

of situational anxiety in patients with psoriasis consistent high level of anxiety due to the high situational stress, concern, anxiety. Thus, patients with psoriasis are inadequately responsive to environmental factors, resulting in mental stress and changes in the nervous system and, in turn, to the persistence and recurrence of the disease.

Discussions:
In patients with psoriasis, we observed significantly higher levels of neuroticism compared with a group of healthy subjects (Table 1). If the integral index of neuroticism L.I.Wassermann for the control group corresponded to a low level, the patients with psoriasis showed moderate neuroticism. This indicates a growth in their emotional excitability, resulting in negative emotions such as anxiety, tension, irritability, confusion. There hypochondriacal fixation on physical sensations and personal shortcomings, including those related to clinical manifestations of psoriasis. This leads to psoriatic disease progression and worsening of quality of life.

In patients with psoriasis also observed significantly higher levels of depression integral index on a scale Beck compared with a group of healthy subjects (Table 1). Healthy patients on an average showed no signs of depression. This score for Beck's scale in patients with psoriasis is regarded as the sub depression consistent state. On one hand, it is the result of chronic psoriasis on the psychological state of the patient, but on the other hand, the presence of sub-depression state by precipitating factors of psoriasis. Thus, there is formation of pathological vicious circle where the presence of psoriasis leads to increased anxiety, neuroticism and depression patient, and this, in turn, is a precipitating factor of the disease.

We analyzed the survey results in patients with psoriasis receiving late treatment. First of all, it should be noted good tolerability solution, cream, ointment and fatty ointment clobetasol propionate. Rate external application of topical corticosteroids does not exceed 20 days, and during that time we have not observed either their local or systemic side effects. Although it should be remembered that prolonged and intensive treatment highly active corticosteroids can lead to increased surface blood vessels, thinning of the skin, forming atrophic bands on it, hypertrichosis and other side effects. Thus, the data demonstrate the safety of use in dermatological practice solution, cream, ointment of clobetasol propionate for 20 days.

Through the use of clobetasol propionate there was a fast regression of psoriatic lesions (Figures 3-6). In patients with psoriasis during treatment the area of affected skin, and scoring index PASI were varied. The results of the definition given in the Table. 2. As the table shows, after treatment in patients with both therapeutic groups a significant reduction index BSA, and PASI index compared with the group of patients before treatment that depicts about the improvement of clinical disease, reducing the area of skin lesions regress erythema, infiltration and peeling were noted. It is observed that the index PASI was lower in patients with psoriasis who used various forms of preparation clobetasol propionate, Compared to the therapeutic group of patients. The ΔPASI (%) indicator at the end of treatment was significantly lower in the patients and therapeutic group compared with the group of patients in the treatment of psoriasis using various forms of preparation clobetasol propionate.

In addition, to the patients who were in the treatment for psoriasis using various forms of

Indexes:	Patients before Treatment	Patients after treatment	
		First group	second group (clobetasol propionate)
PASI index	17,1 ± 0,71	11,4 ± 1,1 *	9,3 ± 0,8 *
Δ PASI,%		58,1 ± 3,6	64,9 ± 2,0∉
Δ PASI> 50%		60.3	69.1
index BSA,%	22,1 ± 1,88	17,3 ± 1,12 *	14,1 ± 1,36 *

Table 2: Indices PASI and BSA in patients with psoriasis during treatment

Notes: * - significant difference (P <0.05) when compared with those of a group of patients to treatment; ∉ - significant difference (P <0.05) when compared with those of patients in the first group after treatment.

Indexes:	Patients before Treatment	Patients after treatment	
		First group	The second group (using clobetsol propionate)
DLQI index, points	12,2 ± 0,24	9,4 ± 0,29 *	8,6 ± 0,17 *∉
ΔDLQI		38,1 ± 1,6	43,6 ± 1,2∉

Table 3: Dynamics DLQI index in patients with psoriasis during treatment

Notes: * - significant difference (P <0.05) when compared with those of a group of patients to treatment; ∉ - significant difference (P <0.05) when compared with those of patients in the first group after treatment.

preparation, clobetasol propionate observed a higher percentage of patients who achieved PASI 50 (i.e, where the PASI index fell by 50%) in comparison with the therapeutic group of patients. This indicates a positive clinical effect of the drug clobetasol propionate in the treatment of psoriasis.

In the treatment of the patients with psoriasis (regardless of therapeutic group) a decrease itching of the skin and its objective characteristics - changes in the nail plate and the presence excoriation was noted. We obtained significant difference in scoring itching between the group of patients before treatment and after its completion in both experimental groups. When comparing scores among themselves and severity of itching his objective evidence that patients with different therapeutic groups after treatment we found that patients who used different forms of preparation "clobetasol propionate" end of treatment were lower scoring itching and excoriation compared to And individuals with therapeutic groups.

We also assessed the impact of the use of various forms of preparation "clobetasol propionate" the quality of life of patients with psoriasis. As evident from the table 3, the patients with both therapeutic groups against the background of the treatment DLQI index significantly decreased, indicating improvement in their quality of life, compared with patients before treatment. It should be noted that the index DLQI at the end of treatment was significantly higher in the group of patients and therapeutic, compared with its value in patients in treatment applied different forms of preparation clobetasol propionate. In addition a significant difference for ΔDLQI (%) between the first and second therapeutic groups of patients was established. These data once again underline the efficacy of drugs clobetasol propionate in the treatment of patients with psoriasis.

The rapid improvement of clinical disease and regression of scars on visible parts of the body (including the scalp) against the background external application of topical corticosteroids clobetasol propionate, had a positive impact on the psychological state of patients. The results are presented in Table. 1. As it is evident from the obtained data, the use of clobetasol propionate helped reduce levels of situational anxiety, neuroticism and depression. After treatment, patients who used topical corticosteroids (clobetasol propionate) had significantly lower levels of situational anxiety and neuroticism compared not only with patients before treatment, but also therapeutic groups and end of treatment. The level of depression in patients clobetasol propionate used in treatment of psoriasis was significantly lower compared with the group of patients before treatment. These data suggest a significant positive effect on the use of topical corticosteroid clobetasol propionate how to reduce the clinical manifestations of psoriasis and indirectly to improve the quality of life, reduce anxiety, depression and neurotic patients.

Conclusions

Review of current literature and conducted study lead us to the following conclusions:

1. Frequent stress at work and the adverse psychological climate in the family, bad habits (smoking cigarettes and drinking alcohol), lack of nutrition, poor care of their health are possible risk factors for the progression of psoriatic disease.
2. The effectiveness of psoriasis treatment depends not only on the correct choice of systemic therapy and the use of appropriate clinical picture means of external action and their specific dosage forms.
3. The use of topical corticosteroids clobetasol propionate in various forms of release is an effective treatment for psoriasis, which causes rapid

regression of psoriatic lesions, reduction in PASI index and BSA, reduce itching and its objective evidence, and indirectly improves the quality of life, reduction in situational anxiety, depression and neurotic patients.

Ethical committee approval: This study was approved by the local expert committee.

Informed consent: An informed consent was taken from all patients that took part in the study, in absence of contact with the patient, a verbal consent was obtained from the patient/ relatives.

Acknowledgements: No potential conflicts of interest relevant to this article were reported. All authors contributed to acquiring and interpreting the data, reviews and interpreted the data. V.V. and R.N. contributed to collect, interpret and write the manuscript. R.N. Supervised, organized and provided the study with materials. V.V, B.M and M.S took care of the responsibility of literature search and contents of the article.

Conflict of Interest: None to declare.

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