THE IMPORTANCE OF DUAL DERMATOLOGIC AND PSYCHIATRIC APPROACH IN PSYCHOCUTANEOUS DISORDERS

Tatiana Taranu¹, Mihaela Paula Toader², Irina Esanu³

¹M.D., Ph.D., Associate Professor at “Gr.T.Popa” University of Medicine and Pharmacy Iasi, 12 University st., Iasi, Dermatological Department, Senior Dermatologist at “C.F.R” Hospital, Iasi
² M.D., Ph.D., Lecturer at “Gr.T.Popa” University of Medicine and Pharmacy Iasi, 12 University st., Iasi, Dermatological Department, Senior Dermatologist at “C.F.R” Hospital, I G. Ibraileanu st., Iasi, Romania,
³ MD, Ph.D., Lecturer at ”Gr.T.Popa” University of Medicine and Pharmacy Iasi, Internal Medicine Department, 12 University st., Iasi, Senior Internal Medicine and Geriatrics” C.F.R Hospital, Iasi

*Corresponding author: Mihaela Paula Toader
tel: 0040722615121, Email: toaderpaula@gmail.com

ABSTRACT

Psychodermatology or psychocutaneous medicine is a relatively old domain, built on well studied and documented connections between mental / psychic and skin. Numerous studies highlight the idea that evolution of a significant percentage of dermatoses is negatively influenced by psychological factors and stress and that mental state affects not only how the disease is perceived but its severity as well. It is estimated that 30-40% of dermatological patients show a concurrent mental disorder or psychological problems that may be the causative, predisposing or aggravating factor of the cutaneous disease. Morbid conditions such as psoriasis, atopic dermatitis, alopecia areata, vitiligo, severe acne have a marked negative impact on patient quality of life through both debilitating and chronic character of the diseases and by their psychosocial consequences: decreased self-esteem, embarrassment, depression, social phobia, social discrimination to employment, family and couple relations alteration. Collaboration with a psychiatrist for optimal management of psihocutaneous disorders is essential but difficult to achieve because most patients with such morbidity refuse (do not accept) the referral to psychiatric/psychologic consultation. Therefore the dermatologists need to have knowledge on pharmacological and non-pharmacological means useful in treating these disorders and to reconsider the importance of training in the field of psihodermatology. Cutaneous side effects of psychotropic drugs must also be known because they are more frequently encountered than most common psychiatric side effects of drugs used in dermatology.

Key words: psychodermatology, depression, nonpharmacologic and pharmacologic psychotherapy

BACKGROUND

Psychodermatology or psychocutaneous medicine is a relatively old domain, built on well studied and documented connection between mental / psychic and skin. The relationship mentally-skin is complex and based on the neuro-immuno-cutaneous-endocrine model that statuates that stress hormones released in response to hypothalamic-epiphyseal under stressful situations (corticotropic releasing hormone, adrenocorticotropin releasing hormone, cortisol and prolactin) activate the sympathetic nervous system and lead to increasing levels of catecholamines and neuropeptides and neurotransmitters (substance P, calcitonin gene-related peptide). [1,2,3,4] One of their targets are cutaneous mast cells, their activation leading to imbalance of skin immune response and the development of inflammatory lesions [5,6]. Psychological stress disrupts epidermal permeability barrier homeostasis, which explains the exacerbation
of eczema (atopic dermatitis) or psoriasis lesions during stressful events [7].

Numerous studies highlight the idea that the course of a significant percentage of dermatoses is negatively influenced by psychological factors and stress and that mental state affects not only how the disease is perceived but also its severity [8,9,10]. It is estimated that 30-40% of dermatological patients show a concurrent mental disorder or psychological problems that may be the causative, predisposing or aggravating factor of skin disease [10]. Morbid conditions such as psoriasis, atopic dermatitis, alopecia areata, vitiligo, severe acne have a marked negative impact on patient’s quality of life by both unsightly and chronic character of the diseases and by their psychosocial consequences: decreased self-esteem, embarrassment, depression, social phobia, social discrimination to employment, family and couple relation’s alteration.

Psycho-social consequences of dermatological diseases are correlated with the following factors: their natural history (long-standing evolution, unpredictable course, partial responsiveness to treatment), the demographic characteristics of patients, their personality traits, the disease meaning for family members and patients culture [11]. Thus, it was reported that female and widower status involve a higher prevalence of psychiatric comorbidities associated with skin diseases [10]. Personality characterized by hostile, dysthymic, neurotic symptoms, is frequently present in patients with psoriasis, urticaria, alopecia [11]. A concept introduced by Nemiah and Sifneos, alexithymia, is defined by a limitation of symbolic thoughts, a decrease of fantasy and lower ability to identify and verbally express emotions and is found more frequently in patients with alopecia areata (58% of cases), chronic urticaria (50%), vitiligo (35.5%), psoriasis (35%) [12,13,14]. In patients with alexithymia physiological and immunological responses are altered [14]. In more than 30% of cases, the effective management of the skin disorder requires consideration of comorbid psychological factors by primary care doctor and by dermatologist and psychiatrist [15]. Along with specialized psychiatric evaluation, a better understanding of the biopsychosocial approach to psychocutaneous cases ensure a more effective management [11].

**Classification of psychocutaneous diseases**

Psychodermatologic conditions are classified by Koo and Lee in the following categories [5]:

1. psychophysiological disorders in which the psycho-emotional factors are co-participants in their etiopathogeny and influence their course;
2. primary psychiatric disorders with secondary skin symptoms;
3. dermatological diseases with secondary psychiatric symptoms.

**1 Psychophysiological disorders**

This category includes dermatoses precipitated or aggravated by emotional, social or occupational stress and / or anxiety: psoriasis, atopic dermatitis, acne, alopecia areata, vitiligo, rosacea, urticaria, psychogenic purpura, seborrhoeic dermatitis, pompholyx, hyperhidrosis, herpes simplex virus infection [5,11]. 44% of patients with psoriasis, a chronic erythemato-squamous, inflammatory and proliferative dermatitis with obscure etiology and unpredictable evolution, report a
stressful event before the disease onset, and 80% of them correlate the relapse episodes with stress [16, 17]. Indeed, studies revealed that increased levels of psychological stress correlate positively with the severity of skin lesions [17]. On the other hand, psoriasis chronic character, long term treatment and its desfigurating lesions may be the cause of depression and suicidal ideation [18,19,20]. Patients with atopic dermatitis, a type of recurrent eczema due to the interaction between genetic, immunologic (immune Ig E-mediated hyperreactivity and decrease in immune cell-mediated reactivity) and environmental factors, report stressful life events, preceding the onset of their disease at a rate of 70% [11,21]. Also, the itching and eczema lesions severity correlate with stressful interpersonal relationships and family issues due to the atopic patients psychosocial adaptation difficulties [22].

Sweating (hyperhidrosis) to emotional stimuli can occur in the context of psychosomatic disorders such as atopic dermatitis and can cause psychiatric symptoms such as social phobia, anxiety and depression or there may be a delusional theme without any clinical objective skin signs in patients with dismorphophobia [23,24].

Hives, most often an allergic dermatitis, characterized by an intensely pruritic erythematous rash, sometimes with chronic course and no identifiable cause can be precipitated and aggravated by emotional tension, fatigue, life stressful situations and can, in turn, be the cause of depression; its severity being positively correlated with the severity of pruritus [25].

Stress intervention in the reactivation of latent herpes infection is well documented, numerous studies revealing a reverse correlation between stress levels and CD4 + helper / inducer lymphocytes involved in antivirus defense mechanism. Another incriminated mechanism in reactivation of herpes infection seems to be the stress released catecholamines, cytokines and glucocorticoids which lead to the cell-mediated immune response alteration [26].

2. Psychiatric disorders with skin symptoms

In these conditions, less frequently encountered than psychophysiological disorders, the psychological problems are primitive and cutaneous manifestations are self-induced and secondary symptoms. Functional psychological background problem may be a disorder of skin self-perception, a body image disorder, an impulse control disorder or a facticial/artefact disorder [27].

Delusion of parasitosis (Ekbom syndrome) is the most common subtype of delusional disorder that implies self-induced skin lesions, as a consequence of the firm belief that the patient is infected with microorganisms / parasites. The psychological background problem is a monosymptomatic hypochondriac psychosis [27]. The skin lesions are self-induced excoriations in order to remove the microorganism. The patient, most often a middle-aged or elderly female, describes this parasite burrowing, stinging, crawling into the skin and proves its existence with small pieces of fabric, scaly or crusty skin collected in different containers ("matchbox" sign). The differential diagnosis includes psychotic depression, psychotic episodes in a maniac patient, formication without delusion, schizophrenia, cocaine, alcohol, amphetamine withdrawal, vitamin B12 deficiency, multiple sclerosis,
cerebrovascular disease, syphilis [11, 27, 28]. For a beneficial physician-patient relationship, the dermatologist should examine carefully the "evidence" and the skin without vehemently denying the visual and tactile patient hallucinations and then treat the skin lesions symptomatically and the psychosis as prescribed by the psychiatrist.

**Body image disorders**, dismorfophobia or non-dermatological diseases are characterized by mental / psychological body image distortion in patients with depression, obsessive-compulsive disorder, social phobia and / or personality disorders. The patients, more often females and around the age of 30, describe various symptoms without notable objective signs, focused mainly on anatomical areas of the face (redness excessive, enlarged pores, scars, hypertrichosis, protruding or sunken parts, nose shape), on hips appearance, breasts shape or body weight [11,27,28]. Male patients often show complaints related to scalp (hair thinning), nose, ears, body allure and genitals (scrotal redness, urethral discharge or venero-phobia) [29,30] . These disorders may result in suicide ideation and attempts, substance abuse, social and occupational dysfunction, marital difficulties [27,31].

**Impulse control disorders** include: trichotillomania, neurotic excoriations, acne exscoriee, onychotillomania, neurodermitis. *Trichotillomania* is characterized by a morbid impulse to pull on the hair (commonly on the scalp and rarely in eyebrows, eyelashes) correlated with a marked sense of tension that the patient is releasing only through this action [32]. Children and adolescents aged 5-15 years are more commonly affected, the favoring factors being traumatic, emotional or emotional neglect [33, 34]. In adult trichotillomania is 7 times more rare and occurs in the context of obsessive compulsive disorder, depression, anxiety, dementia or mental retardation [35, 36]. Trichomalacia histological associated changes (distorted and "curled" follicles) can be revealed by skin biopsy in trichotillomania ambiguous cases [37].

**Neurotic excoriations** or "pathologic skin picking" are polymorphic self-inflicted injuries (erosive-crusted lesions, hypo / hyperpigmented scars) distributed in the most reachable areas, especially in patients with depression [38,39]. They are distinguished from self-induced injury in facticial dermatitis or dermatitis artefacta by their conscious and compulsive nature [37]. Psychosocial stress precedes episodes of scratching, picking, pulling, squeezing or tearing of the skin in 30% - 90% of cases [38, 39]. Most patients with *acne escoriee* are females around the age of 30 years without typical acne. [11, 27, 40]. Lesions by self-trauma injuries of healthy skin or of the skin exhibiting just some lesions of acne with onset in adulthood, located on the forehead, cheeks, preauricular or chin areas, occur as a manifestation of an immature, anxious personality, with compulsive tendencies. [40, 41].

**Facticial dermatitis or dermatitis artefacta** is characterized by lesions consecutive to self-traumatic unconscious behavior (*dermatitis artefacta syndrome*) and should be differentiated from other conditions in which self-injury is semi-conscious, in the context of an impulse control disorder (*dermatitis paraartefacta syndrome*) [42 43]. *Dermatitis simulata* is a clinical form in which the patient consciously uses make-up, colors or paints to simulate skin lesions or diseases in order to obtain material benefits (malingering) [44.]
Dermatitis artefacta in adulthood is more common in female patients. Face, dorsum of the hands and forearms are frequently affected [42,43]. Other skin self-injuring means besides the nails are lit cigarette, chemicals or sharp instruments. Dermatitis artefacta bizarre lesions, are polymorphic (punched-out necrotic areas or circular blisters or erosions due to cigarette burns, dermal induration and necrosis after injections with different substances such as oil, milk, or chronic infected wounds) and sharply demarcated from healthy skin [45]. Serious infectious complications (epidural abscess) may occur as a result of "compulsive picking" [46]. The patient denies any involvement in the development of these lesions.

Psychogenic itching is defined as a persistent stress-induced and stress-maintaining itching sensation. Emotional stress causes the release of histamine, vasoactive neuropeptides and inflammatory mediators that induce itching and vasodilation; hemodynamic skin changes occurring under stressful conditions (increased skin temperature and blood flow and sweating) contribute to the cycle "itch-scratch-itch"[47]. Psychogenic itching diagnosis is based on three main criteria (localized pruritus / generalized sine materia, lasting more than 6 weeks, without organic cause) and 3 additional criteria from the following: pruritus correlated chronologically with psychological events, with intensity variations related to stress and during the night, mostly in rest periods, occurred in the context of psychological disorders (depression, anxiety, obsessive behavior, aggressive personality, alcoholism), improved by psychotropic medication and psychotherapy [47,48].

Eating disorders such as anorexia nervosa and bulimia nervosa may result in dermatologic signs and symptoms due to starvation and malnutrition or after using laxatives, emetics, diuretics. Skin manifestations, more commonly encountered in patients with body mass index $\leq 16$ kg / m² are pleomorphic: dry skin, hyperpigmentation, hipertrichosis, poor wound healing, brittle nails and hair, cheilitis, gingivitis, generalized itching. Concern issue is not only the patient body weight but skin, teeth, cheeks, nose or eyes appearance (marker of severe alteration in body image). [11, 49].

3 Dermatological disorders with psychiatric symptoms

It is estimated that the prevalence of psychiatric disorders in dermatological patients is between 30% - 40% [11]. Disfiguring dermatoses such as psoriasis, chronic eczema, ichthyoziforme syndromes, rhynophyma, severe acne, alopecia areata, vitiligo, neurofibromatosis, hemangiomas, induce feelings of embarrassment, reduced self-esteem and altered body image, depression, anxiety, suicidal ideation and adversely affects interpersonal relationships resulting in isolation or social phobia, difficulties in getting a job or founding a family [50, 51, 52, 53, 54]. Studies reveal that approx. 74% of patients with alopecia areata (partial or total hair loss of the scalp, eyebrows, eyelashes, sometimes universal) show at some point in life a psychological disorder: depression, phobic, paranoid disorders [50, 55]. The most important psychosocial disease impact is encountered in patients with vitiligo, dermatitis characterized by skin depigmentation and sometimes triggered by stressful events. Psychological
comorbidities (anxiety disorder, depression, social phobia) occur in approximately 1/3 of the vitiligo patients [51].

4. Miscellaneous

Cutaneous sensory syndromes include various conditions characterized by abnormal sensation (pain, itching, stinging, bitting, burning) without organic pathological substrate [56]. Involved anatomical areas are the mucous membranes (stomatodynia / glossodynia - oral pain more common in postmenopausal women, representing the somatic expression of a distress or a depressive equivalent revelatory for a mood disorder or the result of a hypochondriac concern; vulvodynia - perineal burning pain that respects sleep representing an equivalent of a depressive mood disorder revealing a neurotic personality), scalp (chronic pruritus) [11].

Psychogenic purpura syndrome (sdr. Gardner Diamond) occurs mostly in emotionally unstable women and is manifested by bizarre, painful, recurrent bruises, localized on the extremities and occurring postrauma or after severe emotional stress through an unclear mechanism (hypersensitivity to extravasated erythrocytes or autoimmune mechanism). Patients may have an obsessive-compulsive behavior or a borderline personality disorder [57].

Pseudopsychocutaneous diseases are disorders that can mimic skin or psychodermatological disorders and are characterized by bizarre symptoms without obvious physical signs. Bullous pemphigoid lesions may be misdiagnosed as dermatitis artefacta while diseases like multiple sclerosis, vitamin B12 deficiency or hypothyroidism may be initially categorized as delusion of parasitosis [58].

Suicidal ideation or attempts in dermatological patients are reported especially in cases of chronic disfiguring diseases, (e.g. severe acne) but also in the presence of moderate or minor cutaneous manifestations in the context of a major depression or body image disorder [52,59].

Psychocutaneous disease management

Psychocutaneous diseases benefit from specific treatments of cutaneous manifestations and pharmacological and non-pharmacological methods for comorbid psychiatric disorders that in essence are represented by anxiety, depression, psychosis and obsessive-compulsive behavior [27]. Dermatological correct approach often significantly reduces emotional and socio-professional impact of the dermatosis. Non-pharmacological psychotherapeutic methods that are beneficial by influencing immune response and endocrine functions of the autonomic nervous system are represented by: [27, 60]:

- biofeedback which consists of a variety of progressive miorelaxation techniques and other relaxation programs used in disorders pathogenically involving the autonomic nervous system [27,61];
- cognitive behavioral therapy for relieving anxiety correlated with dysfunctions of thinking and / or action leading to skin damage [27,61];
- hypnosis which consist in inducing a state of trance in order to obtain long-term analgesia, reduce itching, promote healing after surgery or
annihilation of self-destructive behavior [61,62];

- complementary therapies, herbals and supplements, aromatherapy with lavender oil or passion flower, melatonin [63].

**Psychopharmacologic therapy of anxiety** consists of benzodiazepines (lorazepam, oxazepam, diazepam, alprazolam, chlordiazepoxide, clobazam, selective serotonin reuptake inhibitors-SSRIs (citalopram, paroxetine), serotonin - norepinephrine reuptake inhibitors-SNRIs ( duloxetine), antihistamines (hydroxyzine), beta - blockers (propranolol), anticonvulsants (pregabalin, gabapentin) [64, 65, 66].

**Pharmacological treatment of depression** consists in administering SSRIs (escitalopram, paroxetine, fluoxetine, sertraline), beneficial in dysmorphophobia, dermatitis artefacta, acne excoriée, abrasions neurotic, psoriasis, SNRIs (venlafaxine, duloxetine), mirtazapine (anticholinergic and serotonergic useful in controlling itching), tricyclic antidepressants - amitriptyline and imipramine, effective in chronic urticaria, tenacious pruritus of atopic patients, psychogenic itching, neurotic excoriations, postherpetic neuralgia, psoriasis, alopecia areata [11, 27, 67]. Antipsychotic drugs like doxepin, risperidone, olanzapine have beneficial effects in the treatment of delusions of parasitosis, dermatitis artefacta and monosymptomatic hypochondria [27, 66, 68]. The second generation of antipsychotic drugs (aripiprazole, ziprasidon) is the treatment of choice for patients with psychosis [11,27, 68]. Obsessive compulsive disorder which may be the underlying psychiatric problem for dysmorphophobia or impulse control disorders (acne excoriée, trichotillomania) respond to treatment with SSRIs (fluoxetine, paroxetine, sertraline) [11, 27, 68].

Psychotropic medication can have side effects and some systemic treatments used in dermatology may induce psychiatric symptoms. Thus, SSRIs are sometimes severe hypersensitivity reactions inducers like Stevens – Johnson syndrome, toxic epidermal necrolysis, leukocytoclastic vasculitis and may be the causative factor for photosensitivity rash [69]. Lithium therapy can trigger or worsen plaques or pustular psoriasis, may induce mucosal ulcerations, follicular or palmar-plantar hyperkeratosis [70]. On the other hand, systemic corticosteroids, effective in various skin diseases (bullous or connective tissue autoimmune diseases) may be associated with cognitive and mood disorders, depression, delusion, psychosis [71]. Isotretinoin, retinoic acid derivative, the treatment of choice in severe acne can cause mood disorders, depression, suicidal ideation [72]. Other drugs that may induce depression are dapsone, acyclovir, metronidazole, sulfonamides [11].

**CONCLUSION**

Although well documented, the interrelation skin - mentally is still poorly understood, only 18% of dermatologists, according to one estimate, being familiar with psychodermatology and only 39% of them being interested in continuing medical education activities focused on psychocutaneous disorders [6]. Given the high incidence of comorbid psychological problems in dermatological patients and their additional negative impact on the quality of life, dual medical approach, dermatological and psychological / psychiatric, appears to be the
effective optimal solution for these patients. Adherence to antipsychotic treatment of patients with psychiatric disorders and secondary cutaneous manifestations is usually a challenging problem, because they refuse psychiatric evaluation. A better knowledge of biopsychosocial implications of psychocutaneous disorders is mandatory for their effective management.

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