Psychosomatic factors in dermatology

Emotional disorders are present in up to one-third of all dermatology patients. Moreover, there are disturbances in coping with disease. Psychosomatic dermatology deals with skin disorders in which psychosocial causes, effects, or concomitant factors have a substantial and therapeutically relevant influence. In this context, skin diseases are recognized holistically in a biopsychosocial model. The following paper reviews primary psychocutaneous disorders in detail as well as multifactorial skin disease and secondary psychological disorders and comorbidities.

Introduction

Systematic studies on skin disorders suggest that psychological factors can have a significant impact on the manifestation and course of cutaneous symptoms (e.g., neurodermatitis, psoriasis, contact dermatitis, acne, urticaria). At the same time, patients with chronic skin diseases are often under great psychological strain, which in predisposed patients can lead to manifestation of a mental or emotional disorder. Mental and emotional disorders that present with skin symptoms, such as delusions of parasitosis or other delusional disorders, as well as somatoform disorders and chronic factitious disorders, are in a category of their own.
Psychocutaneous disorders may be classified into three groups (Harth and Gieler 2006) (Tab. 1).

Table 1: Psychocutaneous disorders

<table>
<thead>
<tr>
<th>Category</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin disorders that arise primarily from a mental health disorder (emotional/psychiatric disorders)</td>
<td>Artefacts, trichotillomania, delusions of parasitosis, somatoform disorders (e.g., glossodynia), body dysmorphic disorders (dysmorphophobia), etc.</td>
</tr>
<tr>
<td>Skin disorders of multifactorial etiology whose course is influenced by mental or emotional factors (psychosomatic diseases)</td>
<td>Psoriasis, neurodermatitis, acne, chronic forms of urticaria, prurigo simplex subacuta, hyperhidrosis, alopecia areata, etc.</td>
</tr>
<tr>
<td>Secondary mental or emotional disorders resulting from chronic, severe, or disfiguring skin disease (somatopsychic diseases)</td>
<td>Adjustment disorders, depression, and anxiety disorders</td>
</tr>
</tbody>
</table>

Dermatology patients may also have problems arising from pathological coping strategies due to stigmatization, disfigurement, apprehension, diminished quality of life, and lacking compliance and comorbidities (Tab. 2, Fig. 3).

Table 2: Problem areas in psychosomatic dermatology

<table>
<thead>
<tr>
<th>General problem areas</th>
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</thead>
<tbody>
<tr>
<td>Stigmatization</td>
</tr>
<tr>
<td>Disfigurement issues</td>
</tr>
<tr>
<td>Apprehension</td>
</tr>
<tr>
<td>Coping disorders</td>
</tr>
<tr>
<td>Lacking compliance</td>
</tr>
<tr>
<td>Diminished quality of life/Impairment</td>
</tr>
<tr>
<td>Comorbidities</td>
</tr>
<tr>
<td>Adjustment disorders</td>
</tr>
<tr>
<td>Anxiety disorders</td>
</tr>
<tr>
<td>Depression</td>
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</tbody>
</table>

Figure 1: Prurigo and depression, 68-year-old woman

Epidemiology of mental and emotional disorders in dermatology

Mental and emotional disorders are common in dermatology. In the normal population, about 40% are considered mentally healthy and not in need of psychotherapy, 23% need basic psychosomatic care, 10% are in need of short-term psychotherapy, and 15% require long-term treatment. Only 4% require inpatient psychotherapy and 8% are untreatable, despite an indication for therapy (Franz et al. 1999).

The prevalence of mental and emotional disorders seen in outpatient dermatology has been reported at 25.2% (Picardi et al. 2000), 30% (Hughes et al. 1983), and 33.4% (Aktan et al. 1998), and in inpatient dermatology units at 21% (Schaller et al. 1998), 31% (Windemuth et al. 1999), and as high as 60% (Hughes et al. 1983). Compared with control populations with no somatic disorders, the prevalence of psychosomatic disorders in dermatology patients is three times as high (Hughes et al. 1983; Windemuth et al. 1999). In comparison with patients with neurological, oncological, and cardiological problems, the prevalence among dermatology patients is slightly higher.

In the following, we discuss common psychosomatic disorders related to selected skin diseases.

Acne vulgaris (ICD-10: L70.0)

There is no correlation between the subjective experience of disease in acne patients and objective findings. Acne patients are often non-compliant, and the patient’s perception of disease must be taken into consideration in therapy. Acne patients often have depressive tendencies and social phobia, and they have the highest suicide rate of
Alopecia areata (ICD-10: L63.0)
The onset of alopecia areata appears to be preceded by stressful life events. Patients often react to the condition with anxiety and depression.

Case studies have reported successful use of psychodynamic and behavioral therapy. Antidepressants can reportedly diminish symptoms and improve hair growth.

Neurodermatitis (ICD-10: L20.0)
Neurodermatitis (endogenous eczema, atopic dermatitis) (ICD-10: L20, F54) is a classic model disease for psychosomatic disorders. Neurodermatitis affects 3–4 million people in Germany and is one of the most prevalent disorders in medicine, and in dermatology in particular.

The diagnosis is usually based on the criteria as summarized by Hanifin and Rajka (1980), the cardinal symptoms (typical eczema, pruritus, positive family history, chronic course) and facultative symptoms (e.g., white dermatoglyphism, sweat-induced itching, intolerance toward animal wool, food intolerance).

Neurodermatitis originates from an unalterable genetic predisposition, whereby flares may be triggered by various factors. These include stressful life events and other stress factors, and can vary from one person to the next in terms of their individual significance. The genetic predisposition to this immune disorder is a result of multifactorial inheritance and overlapping constellations of genes.

Emotional and mental symptoms
Even as it was originally described, the term “neurodermatitis”, coined by Brocq and Jacquet, reflected the view (Brocq and Jacquet 1891), that psychosocial and inflammatory factors also played a key role as “co-factors” in the development and persistence of disease. Psychological tests have repeatedly yielded reproducible results that show increased neuroticism, increased excitability, and inability to adequately cope with stress.

Stress
Psychosocial strain is also considered a potential trigger in neurodermatitis flares. It is mediated by neuroendocrine and immunological processes as well as regulatory mechanisms of the autonomic nervous system. Neuropeptides are key to understanding the coupling of the psyche and the soma.

Clinical studies on neurodermatitis have shown that in one-third of patients the flares are triggered by stress. The remainder of patients appear to be stress-resistant.

The largest study to date was conducted after a major earthquake in 1995 in the Japanese city of Kobe. The disease flared-up in 38% of neurodermatitis patients living in the region that was affected by the earthquake. Only 7% of people in the control group, who lived in unaffected areas, experienced a flare-up. Yet 9% of patients in the area affected by earthquake reported improvement compared with only 1% in the control group (Kodama et al. 1999).

The intensity of itching depends partly on perceived stress and can be triggered mentally by emotional excitement (e.g., anger, aggravation, agitation, or sometimes even joy). Numerous clinical studies have found a relationship between emotional stress and the intensity of pruritus. Behavioral therapy programs, in particular, work intensely to break the itch-scratch cycle and thus to minimize the inflammatory reaction.

Personality structures
A cluster analysis of self-reported survey responses found that about 20% of patients had a psychological abnormality (Gieler et al. 1990). Patients with neurodermatitis often exhibit tension, insecurity, aggressive tendencies, and low self-esteem. Yet studies have been unable to identify specific, characteristic personality structures in affected patients. Patients with neurodermatitis are a heterogeneous group of individuals who do not exhibit specific, characteristic personality traits that apply broadly to the group as a whole.

Coping with disease
Every episode of neurodermatitis is associated with a psychosocial response, which in turn affects the disease process itself.

Repeated flare-ups reinforce the perception among many patients that they have no control over the disease. Many feel helpless and at the mercy of the disease. Visible skin changes, especially, often lead to negative social interactions. This includes the usually central distance-closeness conflicts of patients, including disorders involving issues of sexuality.

In patients with pruritus, secondary problems include mainly sleep deprivation, inability to concentrate, fatigue, low energy and effectiveness in social and professional
areas of life. This often leads to resignation, depression, and reactive anxiety or even suicidal tendencies.

**Quality of life**
The diminished quality of life in neurodermatitis patients is the highest of all skin disorders in regard to physical and emotional perception as well as social relationships. The strongly reduced quality of life is primarily a result of the chronic nature of disease. Educational programs for neurodermatitis patients are now available for people of all ages. They are recommended by the German Central Association of Health Insurance Funds. Large prospective, randomized studies have demonstrated the success of such patient education initiatives (Ehlers et al. 1995; Staab et al. 2006).

**Factitious disease**
A factitious disorder is present when a patient creates or pretends that physical or emotional symptoms are affecting him or another person. Factitious disorders (ICD-10: F 68.1, L98.1) are defined as self-damaging behaviors (DSM-IV (300.16/300.19)) that indirectly or directly lead to an objectifiable, clinically-relevant harm to the organism without the direct intention of committing suicide (Fig. 2, 3).

![Figure 2: Self-inflicted scar in a 34-year-old woman](image)

![Figure 3: The tools used for self-harm by the patient in Figure 2](image)

Factitious disorders are currently divided into three categories (Tab. 3).

<table>
<thead>
<tr>
<th>Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Dermatitis artefacta syndrome</td>
<td>Dissociated (not conscious) self-injury behavior.</td>
</tr>
<tr>
<td>2. Dermatitis para-artefacta syndrome</td>
<td>Disorders of impulse control, often as manipulation of an existing specific dermatosis (often semiconscious, admitted self-injury)</td>
</tr>
<tr>
<td>3. Malingering</td>
<td>Consciously simulated injuries or diseases for material gain</td>
</tr>
</tbody>
</table>

This classification is useful for understanding the various pathogenetic mechanisms and respective psychodynamics as well as different therapeutic concepts and prognoses.

There are also special disorders as Munchausen syndrome and Munchausen by proxy syndrome. Munchausen Syndrome is characterized by the triad of wandering from one hospital to the next, simulated illness, and pseudologia phantastica. Munchausen by proxy syndrome refers to fabrication of symptoms in a child, including injury, by a parent or guardian who is seeking help.

Delusional parasitosis, in which patients hold the paranoid belief that they have parasites in their skin, and also damage their skin, is not included among factitious diseases.
Treating factitious disorders requires empathy. From a psycho-dermatological standpoint, the following psycho-therapeutic procedure has proven useful (Tab. 4):

Table 4: Overview: psychotherapy in factitious disorders

<table>
<thead>
<tr>
<th>Therapy</th>
<th>Factitious disorders (strictly defined)</th>
<th>Factitious disorders (more broadly defined)</th>
<th>Simulated disease</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychosomatic underlying disease (symptom diary)</td>
<td>+++</td>
<td>+++</td>
<td>+</td>
</tr>
<tr>
<td>Psychoeducation</td>
<td>+++</td>
<td>+++</td>
<td>+</td>
</tr>
<tr>
<td>Behavioral therapy</td>
<td>+</td>
<td>+++</td>
<td>–</td>
</tr>
<tr>
<td>Depth psychology/analytical psychotherapy</td>
<td>+++</td>
<td>+</td>
<td>–</td>
</tr>
<tr>
<td>Psychopharmaceutical agents</td>
<td>++</td>
<td>+</td>
<td>–</td>
</tr>
<tr>
<td>Confrontation</td>
<td>– –</td>
<td>+/-</td>
<td>+++</td>
</tr>
</tbody>
</table>

+++ very common indication; ++ common indication; + uncommon indication; +/- questionable indication; – possible contraindication, – – – absolute contraindication

Somatoform disorders (ICD-10: F45)
Patients with somatoform disorders are difficult, and thus these are among the most challenging psychological disorders in dermatology.

Definition
Somatoform disorders are characterized by repeated presentation of physical symptoms in conjunction with persistent demands for medical tests despite repeated negative results and the physician’s assurance that there is no physical basis for symptoms.

The dermatological symptoms in somatoform disorders generally consist of pruritus (itching), pain, or cutaneous dysesthesia, a sense of being deformed, perceived hair loss, or the like (Tab. 5).

In recent years, dermatologists have also been seeing patients who believe that environmental toxins or detergents are causing their skin changes. They may report undetectable candidal infection or unverifiable “hidden” food allergies. Such patients are often given diagnoses such as “nihilodermia” or, after Cotterill (1996), “dermatological non-disease.”

Table 5: Somatoform disorders in dermatology

<table>
<thead>
<tr>
<th>ICD-10</th>
<th>Somatoform disorders</th>
<th>Dermatoses</th>
</tr>
</thead>
<tbody>
<tr>
<td>F 45.0</td>
<td>Somatization disorders</td>
<td>Environmental syndrome</td>
</tr>
<tr>
<td>F 45.2</td>
<td>Hypochondriac disorders (strict sense)</td>
<td>Hypochondriac disorder</td>
</tr>
<tr>
<td>F 45.3</td>
<td>Somatoform autonomous function disorders</td>
<td>Erythrophobia</td>
</tr>
<tr>
<td>F 45.4</td>
<td>Persistent somatoform pain disorders</td>
<td>Cyclophobia – orofacial pain syndrome</td>
</tr>
<tr>
<td>F 45.8</td>
<td>Other somatoform disorders</td>
<td>Sensory symptoms</td>
</tr>
</tbody>
</table>

MCS: multiple chemical sensitivities; SBS: sick-building syndrome
Body dysmorphic disorder, which is described below, is an especially common somatoform disease encountered by practicing dermatologists.

Body dysmorphic disorder

The central criterion in body dysmorphic disorder is excessive preoccupation with a physical imperfection or disfigurement (Tab. 6, Fig. 4).

Patients who suffer from visible skin disorders may sometimes reasonably perceive the resulting skin changes as disfiguring. Yet, if the changes are only minimal or if there are indeed no objectifiable skin changes, and the patient nevertheless believes they are disfiguring, a body dysmorphic disorder may be presumed (Stangier 2002).

Various theories have been put forth in an attempt to explain the development of body dysmorphic disorder. The “self-discrepancy theory (SDT)”, proposed by Veale et al. (2003), suggests that in patients with body dysmorphic disorder there are differences especially between the “self-ideal” and “self-should.” Nearly all studies report a high level of co-morbidity with depression and social phobia, which can occur in more than 70 % of affected patients. This could also explain the response of the disorder to selective serotonin reuptake inhibitors (SSRIs) (Philipps et al. 2002).

There is often a triggering event (often involving hurt feelings) which then becomes the central focus against the backdrop of attachment concerns and low self-esteem. Underlying conflicts are thus repressed, the hypochondriacal perception of disfigurement stabilizes itself, and in turn leads to heightened feelings of disgust and shame, which further exacerbate the disorder.

Clinical evaluation does not reveal any pathologies, or only minimal, normal variants. The imagined defects in appearance are located mainly on the face, breasts, or genital areas.

The spectrum of imagined defects in appearance is infinitely variable and can involve quality and quantity of the skin and its appendages as well as asymmetries or disproportionate appearance of the nose, eyelids, eyebrows, lips, teeth, breasts, or genitals. Commonly reported anomalies include hair loss or hypertrichosis, pigmented disorders, pore size, vessel pattern, pallor or reddening of the skin, as well as sweating.

Table 6: Diagnostic criteria in body dysmorphic disorder according to DSM-IV*

| A. Preoccupation with an imagined defect in appearance or deformity. Excessive distress over a minor physical anomaly. |
| B. The excessive preoccupation causes clinically relevant symptoms or limits participation in social, professional, or other areas of life. |
| C. The excessive preoccupation cannot be better explained by a different mental disorder. |

* DSM: Diagnostic and Statistical Manual of Mental Disorders

The prevalence of body dysmorphic disorder is estimated at about 1 % of the total population in the United States and up to 4 % among American students (modern, young patients) (Bohne et al. 2002). In inpatient and outpatient dermatology, the incidence of body dysmorphic syndrome is 11.9-15.6 %. Figures from dermatology/cosmetology consultations report that among women aged 35 to 50 the prevalence is 23 % or more, and even higher among men under age 35.
Psychotherapy
The decision to seek psychotherapy depends on a number of factors. The patient’s concept of disease as well as any previous experience with therapy are very important factors. The severity of core symptoms and processes of chronicity also play a role, and are especially dependent on the duration of disease.

Core questions should be answered during dermatological consultation:
• What type of help is the patient seeking?
• What exactly can the physician offer to support the patient’s desire to change?

Similar to somatic disorders, the indications and contraindications for psychotherapy should be heeded. Patient motivation is another crucial factor. In general, the less time there is between the onset of psychological symptoms and the initiation of adequate therapy, the better is the prognosis.

Indications for psychotherapy in dermatology
Psychotherapy is indicated when psychological symptoms have a lasting effect on diminishing the patient’s quality of life (based on ICD-10 diagnosis). Common indications for psychotherapy in dermatology patients are:
1. Worsening of skin symptoms under emotional stress (acute or chronic)
2. Marked social anxiety or avoidance behavior due to the skin disorder (social phobia)
3. Body dysmorphic syndrome
4. Excessive manipulation of the skin

About 80% of all dermatology units report that they take into consideration psychosomatic aspects in the treatment of dermatology patients (Harth and Gieler 2006). A total of 5% of all persons working in dermatology departments, according to these figures, have completed training in a psychotherapeutic technique or basic psychosomatic care.

The goals of basic psychosomatic care are:
1. To recognize psychosocial aspects of disease in common conditions
2. Knowledge of how to establish interaction with the patient
3. Knowledge of psychosocial care options

The initial contact with the patient should establish a working relationship between the patient and physician – and also include a psychosomatically oriented patient history. It is especially important for the physician to signal his or her willingness to speak with the patient. Basic psychosomatic care can only be ensured when the doctor gains access to the patient through talking and when emotional experiences can be verbalized (Tab. 7).

It is also important to unconditionally accept the patient and his somatic and non-somatic problems. Acceptance can be expressed by verbal or non-verbal behavior. The physician should be sympathetic toward the patient and accept his or her subjective suffering caused by the skin disorder, even if it seems unreasonable (e.g., in body dysmorphic disorder).

Table 7: Practical interventions

| 1. Empathy and establishment of a working relationship |
| 2. Exploration of subjective theory of disease, life situation (stress, life events) |
| 3. Correction of irrational expectations |
| 4. Psychoeducation: provide a biopsychosocial model of disease, provide the patient with information and knowledge about the disease |
| 5. Ensure compliance and outline individual treatment goals (help the patient help himself) |
| 6. Support the patient in managing the disease |
| 7. Common development of biopsychosocial therapy concepts |
| 8. Thematization or additional motivation, indication, introduction of specific therapies including relaxation techniques, indication for psychotherapy and/or psychopharmacotherapy |

Continuing medical education is essential, as is knowledge of diagnosis and differential diagnosis of psychosomatic disorders as well as treatment approaches to psychosomatic diseases, knowledge of various psychotherapeutic techniques including relaxation techniques, indications for psychotherapy and initiation of special therapeutic procedures. In biopsychosocial approaches, especially when dermatologists working with difficult patients see through transference and counter-transference phenomena, a turning point can often be reached in the physician-patient relationship and in the motivation to begin psychotherapy.
Depth psychology-based psychotherapy and behavioral therapy

Depth psychology-based psychotherapy deals with harmful patterns arising from childhood experiences that continue to actively influence the daily life of the patient. By viewing transference and counter-transference as part of resistance and defense mechanisms, one can attempt, for instance, to address unconscious relationship conflicts underlying the skin disorder. The empathy of the psychotherapist is essential for the process of clarification and can enable even poorly motivated patients to face their problems.

The goal of behavioral therapy is to selectively alter dysfunctional patterns of experience and behavior. Examples are enhancement of self-assurance or learning to exercise better control over scratching. An empathic therapist can help provide a basis for changing such behaviors. Together with the patient, the therapist first analyzes currently relevant problems. The strategies for constructive problem solving are developed based on the “here and now.” Using theoretical models as a starting point, the therapist adapts these as appropriate to the situation and to the individual needs of the patient. The goal-oriented and transparent procedure allows even initially unmotivated patients to become involved. Intermediate steps are defined, and after theoretical preparation, practical exercises follow. A positive result means success for the patient; if the result is negative, this is grounds for examining the problem or causal analysis. Studies have shown that behavioral therapy is effective, for instance, in itch-scratch problems (stimulus control), stigmatization (exposure therapy), anxiety and somatoform disorders, and depression.

Relaxation techniques

Despite lacking scientific evidence, relaxation techniques have been found in practice to be effective in patients with skin disorders. Common techniques include autogenous training, progressive muscle relaxation based on Jacobsen, and hypnosis. Progressive muscle relaxation achieves relaxation on an emotional level via physical relaxation. Patients practice exercises to tense and then consciously relax selected muscle groups.

Psychopharmaceutical agents

Primary mental and emotional disorders with cutaneous manifestations, secondary mental and emotional disorders related to dermatological disease, and multifactorial co-morbidities, are potential indications for the use of psychopharmaceutical drugs in dermatology. Psychotic illness is generally treated with neuroleptic medication, while depression, obsessive, compulsive, and panic disorders are usually treated with antidepressants as well as symptomatically with anxiolytics or tranquilizers.

The indication for medium-term or longer-term use of psychopharmaceutical drugs is based on a diagnosis of chief and accompanying mental and emotional symptoms as well as assessment of the primary target symptoms. At the beginning of treatment, possible desirable and undesirable side effects must also be taken into consideration. These include sedation, anticholinergic symptoms, and weight gain. Examples of antidepressants include the well-tolerated selective serotonin reuptake inhibitors (SSRI) such as sertraline, fluoxetine, citalopram, and paroxetine. Long-term therapy planning as well as a control strategy are essential given individual dose titration and delayed onset of effects, and must be discussed thoroughly with the patient.

Conclusion

Mental and emotional factors can have a considerable impact on the manifestation and course of cutaneous symptoms. Chronic skin diseases are often extremely stressful for patients. Thus, for every dermatology patient, the psychosomatic aspects of his or her disease must be considered in the framework of a biopsychosocial model of disease – also with a view to improving patient compliance and the physician’s own psychohygiene.
References


The author (born in 1962 in Bonn) is a practicing dermatologist/venereologist and a senior physician leader as well as deputy director of the Department of Dermatology and Phlebology in Berlin-Friedrichshain. He also heads the division of andrology at Vivantes Clinic. After becoming a dermatologist, he completed training as a psychotherapist, and in 2002 he completed a post-doctoral thesis in dermatology at the medical school of Leipzig University. He published the first German textbook on psychosomatic dermatology (Harth and Gieler, Springer 2006) and is also the author of the S2+IDA guideline on psychodermatology of the Commission for Quality Assurance in the German Society of Dermatology (DDG) and the Association of the Scientific Medical Societies in Germany (AWMF). Since 2007 he has directed the working group on psychosomatic dermatology in the German Society of Dermatology.

Conflict of interest
The authors declare that there is no conflict of interest as defined by the guidelines of the International Committee of Medical Journal Editors (ICMJE; www.icmje.org)

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Psychosomatic medicine in dermatology

Question 1
Possible psychosomatic disorders in dermatology include:
a. Primary mental and emotional disorders
b. Secondary mental and emotional disorders
c. Adjustment disorders
d. Comorbidities
e. All of the above.

Question 2
In which of the following skin disorders may psychosomatic aspects be neglected?
a. Stage IV malignant melanoma
b. Neurodermatitis
c. Alopecia areata
d. Psoriasis vulgaris
e. None of the above-named disorders

Question 3
Possible treatment approaches in dermatology patients include:
a. No psychotherapy
b. Basic psychosomatic care
c. Self-help
d. Outpatient psychotherapy
e. All of the above.

Question 4
Which of the following disorders is not a factitious disorder?
a. Simulated illness
b. Delusion of parasitosis
c. Factitious disorders in the broader sense
d. Munchausen by proxy
e. Self-injury to the skin

Question 5
Which of the following diseases is a somatoform disorder?
a. Prurigo nodularis
b. Systemic lupus erythematosus (SLE)
c. Body dysmorphic disorder
d. Neurodermatitis
e. Urticaria factitia

Question 6
Munchausen syndrome is characterized by:
a. A rare form of vasculitis
b. A rare form of neurodermatitis
c. Rare hair dystrophy
d. Wandering from hospital to hospital, factitious symptoms and pseudologia phantastica
e. Wandering from hospital to hospital, factitious symptoms and introversion

Question 7
Body dysmorphic disorder can involve the following physical complaints:
a. Hair loss
b. Blushing
c. Breast size
d. Muscle mass
e. All of the above are possible.

Question 8
Which of the following does not apply to neurodermatitis:
a. It is a hereditary disease that has various manifestations.
b. Onset is usually in early childhood.
c. In more than half of patients it is triggered by stress or mental/emotional factors.
d. Stress can play an important role as a provoking or exacerbating factor.
e. It is a typical psychoneuroimmunologically influenceable disease.

Question 9
Which of the following is not a selective serotonin reuptake inhibitor?
a. Sertraline
b. Metoprolol
c. Fluoxetine
d. Citalopram
e. Paroxetine

Question 10
Possible indications for psychotherapy in dermatology patients are:
a. Depression
b. Secondary psychological disorder
c. Adjustment disorder
d. AIDS phobia
e. All of the above are possible.