

Skin Changes in Primary Psychiatric Disorders

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ABSTRACT Primary psychiatric disorders where skin changes appear most frequently include: delusions of parasitosis, body dysmorphic disorder, neurotic excoriations, dermatitis artefacta, and trichotillomania. In all these diseases the primary pathologic condition is of psychiatric nature, and the skin changes are secondary and self-induced. In this review we wanted to present the epidemiology, clinical pictures, and treatment options for these disorders. These patients are more frequently seen in dermatology clinics, as they may be unwilling to acknowledge a psychiatric basis for their psychical symptoms. If we want the treatment to be effective and timely, it is important for the dermatologist to understand the underlying psychopathology of these conditions. Treatment should be gradual. An initially supportive, nonconfrontational, empathic approach to the patient is indicated. Immediate confrontation regarding the suspicion that the patient's lesions are self-induced can be counterproductive in that the patient will often refuse treatment. Frequent visits and symptomatic topical treatments are useful in the beginning. The goal is to establish a trusting and supportive enough relationship with the patient so that he or she will accept a psychiatric referral to explore the complex personality and behavioral issues that often underlie these conditions.

KEY WORDS: delusions of parasitosis; body dysmorphic disorder; neurotic excoriations; dermatitis artefacta; trichotillomania

INTRODUCTION

Psychocutaneous diseases were classified by Kolbenzer in 1987 as primary dermatologic disorders and primary psychiatric disorders (1). The first group includes severe dermatoses due to their impact on the patient's physical appearance and well-being. Long-lasting and extensive skin diseases such as psoriasis, atopic dermatitis, pemphigus, or epidermolysis may lead to demoralization, anxiety, and depression. Similar feelings can be caused by cosmetically unacceptable dermatoses such as acne conglobata or

alopecia. These feelings affect approximately 30% of dermatologic patients. The quality of life in such patients is diminished because of the tremendous impact on their private life, interfering with outdoor activities, acceptance by others, and relationships with other people.

In the second group of primary psychiatric disorders, patients have intact skin at first, but something starts to appear on the body because of psychiatric conditions. This group includes: delusions of parasit-

osis, body dysmorphic disorder, and self-inflicted dermatoses (factitious disorders) – neurotic excoriations, dermatitis artefacta and trichotillomania (1).

DESLUSIONS OF PARASITOSIS

Delusions of parasitosis (DP) is a monosymptomatic hypochondriacal psychosis where patients manifest the circumscribed false belief of being infested with parasites. Frequently, it is the only manifestation of the patient's psychosis, so these patients most often present to dermatologists and entomologists rather than to psychiatrists.

The disease has been known for several hundred years ago under different names. Browne in 1690 described this condition as "Morgellons disease" (2), and Thibierge in 1984 as acarophobia (3). Savely *et al.* in 2006 recommend the term Morgellon disease to describe a condition characterized by fibers attached to the skin (4). The entity appears to be little more than a designation for delusional parasitosis. Some other authors have discussed the utility of the term, finding it useful for building a therapeutic alliance with patients with delusions of parasitosis (5,6).

DP occurs primarily in middle-aged or older women, although the condition has been reported in all age groups and in men. Patients come to the clinician in an anxious and excited state, with a history of visits to multiple physicians without satisfaction. They present a detailed history that includes visual and tactile hallucinations, often bringing with them „proof“ of parasitic infection contained in matchboxes, beakers, plastic wrap, jars, or clothing lint (Figure 1).

Patients present with varying degrees of excoriations, ulcers, and scars, as they attempt to remove or destroy the imagined parasites with knives, needles, tweezers, or nails (Figure 2). The usual sites are those that are easily accessible (7).



Figure 1. Delusions of parasitosis. Plastic jar with skin particles. No parasites were found.

Actual infestation must always be ruled out. Microscopic examinations of the material brought by patient reveals the content to be skin bits, hair, scales, lint, and dirt with no parasites, but there is little use trying to convince the patient of this fact (8).

DP can be associated with schizophrenia, obsessive-compulsive disorder, bipolar disorder, depression, and anxiety disorders.

The only method to treat the situation that underlies delusions of parasitosis is the administration of psychotropic medications. Pimozide has been used the longest, but lately risperidone, olanzapine, serotonergic antidepressants, and aripiprazole are given more frequently (9-12). Besides pimozide, haloperidol is one of the psychopharmacological options in the treatment of these patients (13). There has been an increase in combined psychiatric and dermatologic collaboration to treat DP using a multidisciplinary approach with dermatologists working with psychiatrists (14). When treating DP it is important that the physician establishes a therapeutic alliance with the patients. Without this alliance it is difficult to convince patients to take the necessary medications (15). Empathetic listening, expressing concern about how the problem is affecting the patient's life, and examining the material that the patient brings in helps to establish a trustful relationship (1).



Figure 2. Delusions of parasitosis. Multiple excoriations in female patient. She brought the jar shown in Figure 1.

BODY DYSMORPHIC DISORDER

Body dysmorphic disorder (BDD) represents an excessive concern with a presumed defect in physical appearance despite normal or only minimal objective anomalous findings on the skin.

The disorder, also known as dysmorphophobia, was first documented in 1886 by Morselli. The disease was recognized by the American Psychiatric Association as a body dysmorphic disorder, as the original term implies a phobia of people, not a reluctance to interact socially because of poor body image (16). BDD is marked by a preoccupation with an imagined or trivial defect in appearance, but a preoccupation causing clinically significant distress or impairment in social, occupational, or other functioning. Untreated, it tends to be chronic and is a potentially debilitating psychiatric illness which may lead to social withdrawal and professional failure, as well as depression and suicide in severe cases (17).

The prevalence of BDD is estimated to be from 1% in the general population to 12% in dermatology clinic patients, equally prevalent in women and men. It can be associated with major depressive disorder, phobia, and the spectrum of obsessive-compulsive disorders (1). BDD can occur in adults or in children, usually beginning during adolescence when a large amount of change is happening to the body.

Patients present with intensely articulated distress about various body parts. They have worrisome thoughts, consuming hours of each day, including repeated examination in mirrors, concealing the "defect" and asking others for reassurance. They spend many hours a day attempting to conceal or correct perceived flaws that are often not real. If the perceived flaw has any foundation in reality, it is typically minor but severely exaggerated by the patient, such as minimally expressed acne comedonica with only 2-3 papules (18). Patients often wish to change or improve aspects of their physical appearance that they find troublesome and seek dermatological treatment, cosmetic surgery, or other cosmetic modification for their concealment, although the outcome usually does not resolve the symptoms of BDD itself (19). Skin picking sometimes manifests as a symptom of the disease and can both create a larger imperfection as well as harm the individual (20).

BDD is under-diagnosed, although it has been reported for more than one hundred years all over the world (21). The inconsistency in prevalence is indicative of the importance of education on what BDD is and how it can be diagnosed. It is crucial for physicians to identify its symptoms and help patients understand the need for psychiatric help. Selective sero-

tonin reuptake inhibitors (SSRIs) with individual and group cognitive behavioral therapy (CBT) have been shown to be most effective and should be used as a first line of therapy (22,23). SSRIs, clomipramine, fluoxetine, fluvoxamine, sertraline, and paroxetine have been found to be effective in both delusional and non-delusional cases (24-26).

NEUROTIC EXCORIATIONS

Neurotic excoriations (NE) are conditions in which patients induce skin lesions through repetitive, compulsive excoriations of their skin. Unlike patients with dermatitis artefacta, these patients admit their role in the production of the lesions.

Skin lesions are caused by picking, rubbing, and scratching because patients have poor impulse control and cannot suppress the desire to inflict injury on themselves.

The condition seems to be associated with underlying obsessive-compulsive disorder, depressive disorders, and anxiety disorders. However, the behavior has also been associated with social stressors, including unemployment, financial loss, and marital hardships (27).

It is estimated that 2% of dermatologic clinic patients have the diagnosis of NE with the predominance among middle-aged females (28). Patients with NE often describe significant itch leading to persistent scratching, which is frequently antedated by considerable psychological stressors. They scratch themselves mostly with their nails but sometimes also with "helping devices" (Figure 3).

Patients present with multiple excoriations in various stages of evolution and healing, with post-inflammatory hyperpigmentation and scarring. The distribution of the lesions reflects their self-inflicted nature with most being on the extensor surfaces of the extremities, upper back, and face, sparing unreachable

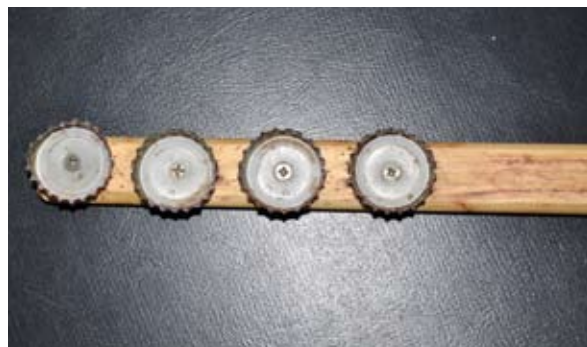


Figure 3. Neurotic excoriations. Home-made "helping device" for scratching found with male patient.



Figure 4. Neurotic excoriations. Typical excoriations made by “helping device” shown in Figure 3.

areas (Figure 4). The bilateral upper lateral back area is usually spared. The “butterfly sign” is a characteristic feature, as the areas of where the patient cannot reach bear a resemblance to the shape of butterfly wings (29).

The clinician must evaluate the patient for causes of pruritus and rule out possible internal diseases, uremia, liver diseases, and neoplasms, in particular lymphomas.

The treatment depends on the precise nature of the underlying psychiatric diagnosis involved. The first-line treatment for NE may be SSRIs as they can reduce depressive and compulsive symptoms (30,31). Anxiolytics can be used for short-term treatment when an acute social stressor or comorbid anxiety is involved. Non-pharmacologic treatment includes cognitive therapy, behavior modification, an eclectic approach, and psychodynamic psychotherapy (32). Dermatological management includes oral antihistaminines, topical antipruritics, cool compresses, and phototherapy (27).

DERMATITIS ARTEFACTA

Dermatitis artefacta (DA), also known as factitial dermatitis is a disorder of self-injurious behavior. In DA cases patients intentionally feign symptoms and produce signs of a disease in an attempt to assume the role of a patient. A patient with this condition produces cutaneous lesions in order to fulfill an unconscious psychological need (33). Unlike malingering patients who engage in similar behavior for external or “secondary” gain (such as monetary reward or relief from occupational or other social responsibilities), the factitious patient seek the “primary gain” of the emotional and psychological benefits accrued by those who are ill (1).



Figure 5. Dermatitis artefacta. Typical artefacts on the face of a school girl.

Dermatitis artefacta is frequently seen in individuals who are immature personalities when facing a stressful life situation. The visible skin lesions can be interpreted as an attempt of non-verbal communication, a silent appeal for help. Dermatitis artefacta is predominant in women; the age of onset varies significantly from adolescence through the seventh and eighth decade of life. The patient population is also associated with working in or having family members in health-related careers. This may be related to the hypochondriacal tendencies of the patient, or to the fact that the patient is inclined to learn to falsify ailments through contact with those with actual disease (34).



Figure 6. Dermatitis artefacta. Linear artefacts on the upper parts of the back that are accesible to the patient.



Figure 7. Dermatitis artefacta. Abrasions on the gluteal region in a female patient. For many years she produced lesions only on her face.

Many of these patients display a rather neurotic emotional disorder and not psychosis. The majority of patients with this condition have borderline personality disorder (35). Some of these patients have suffered from an emotional deficit early in life, or have a history of sexual or physical abuse and are therefore unable to develop a stable body image. They may suffer from profound psychological distress, depression, and poor impulse control. The act and sensation of self-induced pain and physical lesions may relieve their inner sense of isolation and distress (33).

Morphology of DA is often bizarre and does not conform to typical presentations of known dermatoses. Patients are often unable to provide a clear history of the initial appearance or evolution of the process and typically deny their role in the production of the lesions (1). Often, the patient appears unmoved by the unsightly and bizarre lesions, but their family members are upset and suspicious of how the lesions evolved (36).

Although it has long been known that patients with dermatitis artefacta may present with lesions in virtually all areas of the body that can mimic many dermatoses, some common elements may hint at this diagnosis. Lesions are often in areas readily accessible to the patient and may have geometric patterns or angulated borders surrounded by completely healthy skin. A wide range of histologic findings are found, but the histopathology is unrevealing (37). Characteristically, skin changes heal rapidly under the occlusive dressing.

DA presents in a great variety of clinical forms depending on the patient's creativity and the method used to produce the lesions. The most common pre-



Figure 8. Dermatitis artefacta. Artificial eczematous lesions on the abdominal region and both legs originated by pouring chemical on the skin.

sentations are: excoriations, ulcers, blisters, panniculitis, crusting, eczematous lesions, edemas, purpuras, and bruises (38). Skin lesions are produced by scratching, burns or cauterization, application of different chemical or plants, and sometimes by self-injections of different products such as milk (39), or urine (38).

Following patients with DA for many years, we noticed lesions in different configurations, in usual and unusual shapes, single or multiple, mostly confined to areas accessible to the patient's hands. Skin changes were mostly located on the face, chest, and limbs, but sometimes all over the body. There was strenuous denial by around 50% of patients that they took part in provoking the lesions, while in others it was discovered that they produced the skin lesions by scratching, abrasions, cutting with knives and razor blades, burning with cigarettes and irons, applying chemicals such as washing powders and strong sanitary cleaners, irritant plants, and even injecting some ingredients under the skin (such as saw-dust). All this provoked heavy irritant dermatitis with erythema, erosions, and sometimes ulcerations (Figure 5, 6, 7, 8, 9, 10, 11). Lesions healed rapidly under the occlusive dressing. In many of them different scars were visible as well (40).

As in all cases of factitious diseases, the clinician must rule out possible disease entities that are con-



Figure 9. Dermatitis artefacta. Erosions and scars on shoulder. Patient denied that she took any part in provoking the lesions.

sistent with the history and clinical findings. Unusual presentations of common illnesses and rare conditions must be considered. However, exhaustive search for primary skin pathology without supporting clinical evidence may compound the problem and actually perpetuate the patient's factitious behavior.

Treatment must be delicate. An initially supportive, non-confrontational, empathic approach to the patient is indicated (36). Immediate confrontation regarding the suspicion that the patient's lesions are self-induced can be counterproductive in that the patient will often refuse treatment. Frequent visits and symptomatic topical treatments are useful in the beginning. The clinician must be careful not to collude in the patient's abnormal behavior and, ultimately,



Figure 10. Dermatitis artefacta. Skin changes on both arms provoked by multiple cigarette burns.

the recognition of the patient's role in the production of the lesions must be broached. The goal is to establish a trusting and supportive enough relationship with the patient that he or she will accept a psychiatric referral to explore the complex personality and behavioral issues that often underlie this condition.

Psychiatric treatment includes a combination of pharmacological and behavioral therapy. A dialectical behavioral therapy involving a structural behavioral therapeutic program is recommended for borderline personality disorder (28). Psychotropic medications can be used to treat depression and anxiety. SSRIs such as fluoxetine, sertraline, paroxetine, and fluvoxamine are typically treatment for compulsive, self-injurious behavior. Anxiolytics such as buspirome and benzodiazepines can be prescribed if anxiety is a dominant feature (36).

Dermatological treatment includes wounds debridement, topical antibiotics, and epitelization assistance measures. Occlusive dressing or other means of preventing manipulation by the patient avert further cutaneous damage and lead to healing of the lesions.

TRICHOTILLOMANIA

Trichotillomania (TTM) is an impulse control disorder characterized by repetitive hair pulling, resulting in self-induced hair loss. According to psychiatric criteria, the patient should also experience tension prior to hair pulling or when resisting such behavior and experience relief after the behavior is complete. In addition, the patient must demonstrate impairment in functioning or significant distress (27). Comorbid



Figure 11. Dermatitis artefacta. Older and recent scars remaining after razor blade cuts.

psychiatric disorders are depression, anxiety, and obsessive-compulsive disorder (OCD) (1).

Some studies on college students have found the prevalence of TTM to range from 1.0% to 13.3% (41). In TTM, despite normal hair density, patients present with different hair lengths, including tapered ends demonstrating new growth and blunt ends representing broken hairs. Hairs may be broken mid-shaft or appear as small black dots or stubbles at the scalp surface. Excoriations may be found as well. The affected region typically has an unusual shape (Figure 12, 13). The pull test is also negative, i.e. the hair does not pull out of the scalp effortlessly. The scalp feels rough where the hair was pulled out (42). TTM is often misdiagnosed as alopecia areata. In alopecia areata, the bare regions of the scalp are smooth, peach-colored, and the hair-pull test is positive (42). Body areas involved typically include the scalp, eyelashes, eyebrows, and pubic hair, with the majority of patients pulling hair from more than one site. Rarely, this is followed by the ingestion of the hair, leading to trichobezoar (43).

Diagnosis of TTM is supported by findings of trichomalacia, characterized by melanin pigment casts, increased density of catagen phase hairs, and traumatized hair bulbs without perifollicular inflammation (44).

Trichotillomania in young children generally has a benign course. It may be accompanied by other evidence of stress, such as regressive behavior, bed wetting, or nightmares. A gentle exploration by the physician of changes at home which might be the source of that stress, may aid the parents in supporting their

child through the difficult period. In the treatment of patients in this age group, it can be helpful to offer the child a woolly toy to pluck. Trichotillomania in an older child or adolescent may prove more persistent, may involve the eyebrows and eyelashes as well as the hair of the scalp, and may carry the same unconscious implications of punishment or autoeroticism. It is necessary to be frank with the parents about the nature of the problem, and to stop them from seeking the more "acceptable" and less threatening explanations for alopecia, such as endocrinopathy or dietary deficiency, through a multitude of unnecessary and expensive tests. In children, pulling of hair frequently becomes the focus of a power struggle between the parent and the child. It is of great importance that the parents understand and see that. By insisting that the habit be stopped, they are pressuring an already stressed child, and perhaps, paradoxically, ensuring that the habit will persist (45).

Treatment of TTM includes pharmacological and non-pharmacological therapies. Recommended therapy is administration of SSRIs, specifically escitalopram, sertraline, fluoxetine, citalopram, and paroxetine, which can be used as monotherapy. Clomipramine, a tricyclic antidepressant, may also be used (46). Atypical antipsychotics including risperidone and aripiprazole at low doses have appeared to be beneficial in combination with SSRIs or as monotherapy (44).

Non-pharmacological therapies include behavior modification through habit reversal therapy. It involves self-monitoring of behaviors, coping strategies, relation therapy, social support, and competing responses, such as sitting on the hands or clenching the fists until the tension resolves (42). Cognitive behavior therapy, hypnotherapy, and insight-oriented psychotherapy have been effective, especially in the pediatric population (47).



Figure 12. Trichotillomania.



Figure 13. Trichotillomania.

In dermatological treatment, topical steroids can improve secondary inflammation, and topical minoxidil may increase the rate of hair regrowth (27).

DISCUSSION

For all primary psychiatric disorders where the skin lesions appear secondary, the most effective underlying strategy is to first establish a strong therapeutic rapport with the patient. Various pharmacological and non-pharmacological therapies can then be attempted to successfully manage these patients. Although the underlying cause of skin changes in primary psychiatric disorders is of a psychiatric nature, patients with these disorders frequently seek help from dermatologists as they may be unable to acknowledge or are not fully aware that they are inducing the physical lesions on themselves. Therefore, it is important to understand that these disorders can be more effectively managed if the dermatologist is able to familiarize themselves with the epidemiology, clinical presentation, differential diagnosis, and treatment of these conditions (27).

Diagnostic clues are found in the nature and the evolution of the lesions as well as in the ambivalent combination of dependency on doctors and hostility toward them revealed in the patient's medical history. Management of these skin lesions means dealing with the complex emotional issue of a basic antagonism in the dermatologist-patient relationship. Both the dermatologist and the dermatologic nursing staff should show an understanding and nonaggressive attitude (48).

For a better prognosis and successful treatment, early diagnosis of these skin changes is crucial along with supportive consultations with dermatologists, psychiatrists, and general practitioners. Course and prognosis are fundamentally determined by the underlying psychopathology. In patients with severely manifested psychiatric disorders the recurrent self-defeating and destructive behaviors are likely to continue. Thus, in such patients the recurrences are frequent, and long-term and intense psychiatric therapy is recommended.

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