The Self-Inflicted Dermatoses: A Critical Review

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Abstract: *The self-inflicted dermatoses, namely dermatitis artefacta, neurotic excoriations, and trichotillomania, have been reported to be associated with various degrees of psychopathology in the dermatologic literature, but have received surprisingly little emphasis in the psychiatric literature. This probably reflects, firstly the fact that most of these patients initially deny any psychologic problems and hence may not receive psychiatric interventions, and secondly a lack of adequate collaboration between the psychiatrist and dermatologist. These disorders may be associated with serious sequelae, such as suicide and repeated major surgical procedures. Their treatment is also primarily psychiatric. This article critically reviews the literature and comments upon the salient clinical features and treatments for these disorders, which are relevant for the psychiatrist doing consultation–liaison work. Knowledge of these disorders is important in the evaluation of any psychiatric patient, as these disorders are essentially a cutaneous sign of psychopathology.*

The self-inflicted dermatoses have received little attention in the psychiatric literature, and surprisingly few studies have evaluated the psychopathology of these patients [1], even though in the dermatologic literature these disorders have been classified as being "exclusively emotional in origin" [2], and on occasion have been reported to be associated with suicide [3]. As most of these patients usually deny any psychiatric problems initially, which frequently leads to a delay in psychiatric intervention, they are typically first seen by the dermatologist. Knowledge of these disorders is therefore especially important for the psychiatrist doing consultation–liaison work with dermatology. Furthermore, in most instances these dermatoses are readily visible and are a "cutaneous sign" of psychopathology, and therefore knowledge of these disorders is useful in the psychiatric assessment of any patient.

In the narrow sense, the skin is the interface between the individual and the physical and social environment, and an important medium for communication. This fact, along with its easy accessibility, probably makes the skin more vulnerable to self-inflicted lesions. This article critically reviews the literature on the three major self-inflicted dermatoses, namely, dermatitis artefacta, neurotic excoriations, and trichotillomania or traumatic alopecia. In our experience at the Psychodermatology Clinic, psychiatric intervention is often the most crucial element in the treatment of these patients. The purpose of this paper is to a) alert the clinician that a potentially life-threatening and treatable psychiatric disorder may underlie some of these dermatologic disorders, and b) review the salient clinical features and psychiatric treatments that have been reported to be effective in these frequently chronic cutaneous conditions.

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Review of the Literature

The majority of the studies [4–19] have not used controls when evaluating the psychiatric features or treatments for the various self-inflicted dermatoses, nor have they stated the operational definitions of the various psychiatric disorders diagnosed. In spite of these methodologic problems, the current literature delineates some distinctive features of these disorders that are of significant clinical relevance.

Dermatitis Artefacta

Definition

Dermatitis artefacta is a term that describes cutaneous lesions that are wholly self-inflicted [2,20]. The patients typically deny the self-inflicted nature of these lesions [2,20].

Demographic Features

The incidence of dermatitis artefacta among dermatologic patients has been reported to 0.3% [20]. There is a predominance of this disorder among females, with a male-to-female ratio of at least 1 to 4 [4–6,15,21] in the various studies. The age at onset of symptoms spans a broad range from 9–73 years [4–6,15].

Dermatologic Features

The lesions have wide-ranging morphologic features and are often bizarre looking (Fig. 1), with sharp geometric borders (Fig. 2) surrounded by normal looking skin (Figs. 1 and 2) [2,20,22,23]. They may present as blisters, purpura, ulcers, erythema, edema, sinuses, or nodules, depending upon the means employed by the patient to create the lesions [24], such as deep excoriation by fingernails or other sharp object, chemical and thermal burns [2], occlusion of circulation around the limbs or digits [2,5,23], and so on. Cutaneous factitial disease has been reported to mimic Weber–Christian syndrome [25], subcutaneous emphysema [26], bullous pemphigoid [27], and cellulitis [23]. Full-thickness skin loss or severe scarring resulting from the self-inflicted lesions may necessitate extensive plastic surgery [28,29]. In a review of 130 cases of dermatitis artefacta, 22 women required surgery, with 12 needing amputations [21].

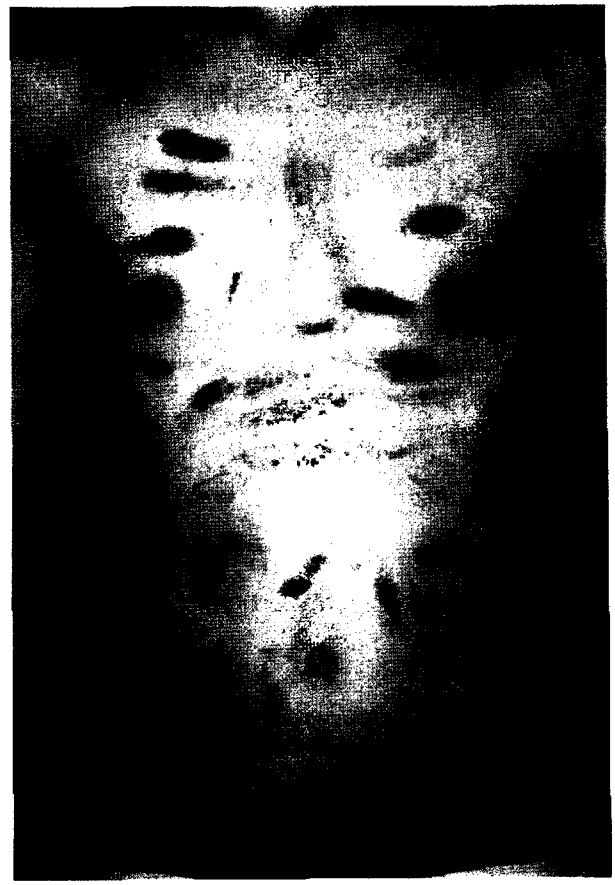

Figure 1. Bizarre looking self-inflicted lesions in dermatitis artefacta. The skin surrounding the lesions is normal looking.

Psychiatric Features

Self-inflicted dermatologic lesions have been associated with mental retardation, psychosis, Munchausen's syndrome, and malingering [6]. These disorders are present in only a small minority of these patients, however, and in most instances obvious evidence of secondary gain is not present [21]. The most consistent observation appears to be an underlying immature personality, with the dermatitis artefacta being "an appeal for help" [4,23]. After following up these patients for up to 22 years, Sneddon and Sneddon [5] observed that dermatitis artefacta was only one incident in a long history of "psychogenic illness," and report that 5% of their patients also developed anorexia nervosa. Interestingly, these patients were young women with immature personality configurations, who developed both disorders in the context of a difficult life situation. In a survey of patients with

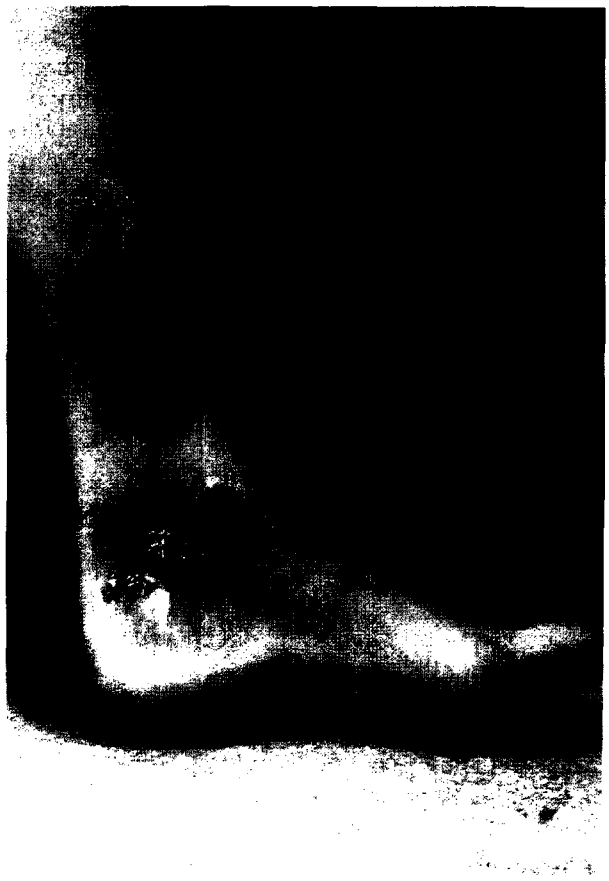

Figure 2. A chronic, self-induced cutaneous ulcer over the medial malleolus. The prominent hyperpigmentation is partly post-inflammatory in reaction to self-inflicted trauma, and also due to topical Minocycline which was used to treat the ulcer.

different forms of self-inflicted dermatoses, Krupp [15] reports a 46% prevalence of depressive illness; however, studies that have looked at patients with dermatitis artefacta alone report only a 9% prevalence of depressive illness among these patients [5]. There is a very low incidence of suicide among these patients [23,30]. Other disorders reported include multiple personality disorder [31]. In the pediatric age group, the possibility of child abuse must always be ruled out [32,33].

Loss or threatened loss, marital difficulties [4,5,15], and increased social isolation, especially among the elderly [30], may precede dermatitis artefacta.

Diagnosis

Early diagnosis is important as this may prevent unnecessary surgery and chronic morbidity [21]. Typically, bizarre looking necrotic lesions appear rather suddenly in areas that are easily accessible to the patient [34]. In the right-handed person, the left side is usually involved [5,21]. The lesions are usually asymmetric, may appear singly or in crops, with no history of a primary papule or vesicle [34]. The patients are typically not able to describe how the lesions evolved, and their histories have been described as "hollow" [24], when the dermatologic symptoms are evaluated. Diagnosis is usually confirmed by biopsy which indicates lack of a primary disease process [34]. The lesions heal if occlusive dressing or a plaster cast [24,34,35] is used. Lesions are frequently produced at sites that may have been suggested to the patient by the physician, as being a likely site for the next lesion [21,34].

Treatments

Most authors recommend a supportive and empathic approach [2,4,5,22,23], avoiding direct discussion regarding the self-inflicted nature of the lesions. Few have suggested that direct confrontation is helpful [21]. Once a satisfactory therapeutic relationship is established, a more insight-oriented psychotherapeutic approach may be helpful [4,30]. The self-mutilative behavior has been interpreted as "a desire for self-punishment to achieve relief from tensions caused by fear and guilt," an attempt to "test the tolerance" of others, and as "exhibitionistic" [4,30]. Twenty percent of these patients have been reported to have experienced the loss of a parent or sibling by separation or death in the first decade of life [15], and it is likely that developmental problems resulting from this would be the focus of treatment in some patients. In many cases, the disorder develops in the context of a difficult life situation [4,5,15], and often recovery occurs only after improvement in the life situation [5]. School-related problems were present in 60% of children with dermatitis artefacta [4]. Among adolescents and adults, problems in all major areas—sexual, marital, family and work-related—were common [4,15]. Illness, accident, or bereavement have been observed to precede 19% [4] to 33% [15] of cases. Environmental manipulation may be facilitated, for example in the case of a child through family therapy or change of schools, and among the socially isolated elderly by mobilizing social support. Other helpful adjuncts include relaxation exercises [5], and a short course of antianxiety or antidepressant medications [4] where indicated.

Course and Prognosis

The course and prognosis of dermatitis artefacta vary considerably. This is most likely related to the nature of the underlying psychiatric disorder. In some instances, recovery occurs after the initial psychiatric contact, whereas in other cases, the disorder may persist for decades [4]. Sneddon and Sneddon [5] followed up 33 patients for 22 years and observed that 30% of these patients continued to produce lesions 12.4 years after onset of symptoms. A large number of these patients were diagnosed as having "immature" personalities and treatments employed were not clearly stated. Contrary to other reports, Hawkings et al. [6] have described this disorder as "self-righting" with no cases persisting beyond the fourth decade, and have compared its course with anorexia nervosa. The prognosis is reported to be better in the younger age group where symptoms arise primarily in the context of a disturbed home situation [4,30].

Neurotic Excoriations

Definition

Neurotic excoriations are lesions produced by the patient as a result of repetitive self-excoriation which may be initiated by an itch, "a disturbing sensation" in the skin distinct from pruritus, or because of an urge to excoriate a benign irregularity on the skin [2,3,20,36,37]. This initiates and perpetuates the "itch–scratch" cycle [38], which in some patients becomes a true compulsive ritual [3]. Unlike dermatitis artefacta, the patients typically acknowledge the self-inflictive nature of their lesions [36].

Demographic Features

There is a 2% incidence of neurotic excoriations among dermatology clinic patients [20] and a 9% prevalence among inpatients with pruritus [39], with a predominance among females, ranging from 52% to 92% [3,7,11,12] in the various studies. Most studies report a mean age of onset between 30 and 45 years [3,7,14]; some authors, however, have reported a peak incidence in the 20s [36].

Dermatologic Features

Unlike the frequently bizarre looking lesions of dermatitis artefacta, the lesions in neurotic excoriations do not stand out as being unusual, and do not have the potential to mimic other dermatologic disorders. They are typically a few millimeters in diameter, weeping, crusted, or scarred, with postinflammatory hypopigmentation or hyperpigmentation [20,36]. The lesions may range in number from a few to several hundred and in chronic cases, scarring may be the only sign [20] (Fig. 3). The lesions are distributed in areas that the patient can reach, typically affected regions being the upper and lower extremities, face and upper back [20, 36]. The repetitive self-excoriation can also exacerbate a preexisting dermatosis [3].

Psychiatric Features

The most consistent psychiatric disorders reported in association with neurotic excoriations are a personality with perfectionistic and compulsive traits [3,7–9,15] and depression [3,7,15]. Unlike dermatitis artefacta, suicide has been reported to be more frequent in neurotic excoriations [3]. Other psychopathologies include psychosis [9], "conversion reactions" [7,9], "hysteria" [11], hypochondriasis [3], and anxiety states [3,9]. Up to one third of these patients also have tension or migraine headaches and gynecologic symptoms related to menstruation [3]. It is possible that in some instances, these symptoms may indicate an underlying somatization disorder.

Many have observed that these patients have difficulty expressing anger [3,36,37,40] and situations that provoke aggressive impulses may precipitate the scratching and pruritus. Electroencephalographic (EEG) abnormalities, consisting of nonfocal theta activity in the temporal regions in 52% with neurotic excoriations versus 25% of psychiatric outpatient controls [41] have been proposed to be related to abnormalities in the modulation of aggression, since they are similar to EEG abnormalities in psychopaths.

Psychosocial stressors typically involving marriage, family, or work [3,9] have been reported to precede neurotic excoriations in 33%–98% of patients [3,20]. We have observed onset of neurotic excoriations following physical debility due to illness or aging among individuals with strongly compulsive personality traits [42]. The development of repetitive self-excoriation following decreased physical mobility is similar to other repetitive motor phenomena like tics that have been observed in wild animals held in captivity [43]. This is consistent with the ethologic view that scratching

Figure 3. Numerous scarred cutaneous lesions with hyperpigmentation, as a result of repetitive self-excoriation, in a patient with neurotic excoriations.

is a "derived" activity arising in reaction to frustration [44].

Diagnosis

Diagnosis must include investigations for other systemic and local causes of pruritus. The patients acknowledge that their scratching perpetuates the disorder. The histopathology of these lesions is consistent with repetitive localized trauma to the skin [45].

Treatment

Improvement in the mental state has been associated with improvement in the cutaneous lesions [3]. Freunsgaard [3] observes that the psychiatric interview alone can initiate improvement in some patients. An empathic supportive approach [7,46] has been reported to be significantly more effective than insight-oriented psychotherapy [14], which often exacerbates the symptoms. Benzodiazepines [47,48], Amitriptyline 50–75 mg/day [7], and Pimozide 4–6 mg/day [49] have been used to treat neurotic excoriations. It is not clear whether these patients had an underlying depressive illness or psychotic symptomatology. The efficacy of antipsychotics and antidepressants is most likely not related to their antihistaminic effects alone, as clinically antihistamines have primarily a sedating, rather than a specific antipruritic effect [38], except in histamine-mediated pruritic states.

Course and Prognosis

The mean duration of symptoms has been reported to be 5 years (range 6 months to 12 years) [14]. In Freunsgaard's study [3], 52% had symptoms for over 1 year, with most having symptoms for 10–12 years. Prognosis is better when the lesions have been present for less than 1 year [3] and worse when other physical complaints such as muscle tension headaches are also present [9,10].

Trichotillomania (Traumatic Alopecia)

Definition

Trichotillomania is defined as nonscarring alopecia as a result of a compulsion to pluck out one's own hair [1,36]. The extracted hair may be chewed or swallowed [1,36]. The patients typically deny that the alopecia is self-induced [16,50]. This disorder should be distinguished from hair-pulling, which may be associated with thumb-sucking and nail-biting in children.

Demographic Features

Trichotillomania appears to be a relatively rare disorder, with a prevalence of 5–60 per 10,000 in a child psychiatric setting [51]. Interestingly, among the self-inflicted dermatoses, this disorder is most well known in the psychiatric literature. In the various studies [16–19] 38%–100% of patients were reported to be female. The mean age at onset is typically 5–12 years [17–19].

Dermatologic Features

The hair of the scalp, eyebrows, eyelashes, beard, or pubic area are usually affected. The hair-plucking is often accomplished by twisting the strands around the fingers, followed by pulling of the hair [52]. This results in hairs of various lengths partially distributed over the area of alopecia [52]. An affected region is rarely completely devoid of hair [52] (Fig. 4). The areas of alopecia appear at regular intervals and tend to be in the same region of the scalp. Patients often complain of itching of the scalp. The term trychokyptomania has been used to describe a disorder similar to trichotillomania, where hairs are broken off instead of being completely pulled out [53].

Psychiatric Features

Most children with trichotillomania have been diagnosed as "neurotic" [1,18,36], and some have observed an absence of serious psychopathology in the child [19], the disorder occurring primarily in the context of a disturbed parent–child relationship [19]. Greenberg et al. [17] observed that 84% of the mothers of these children were "highly pathologic" and 87% of the fathers "helpless and ineffectual." Depressive symptomatology has been reported in a significant number of adolescents with this symptom [17]. An overconcern about body weight has also been observed among these patients [17]. In this study [17], where patients had been referred from both dermatologic and psychiatric facilities, 10% were diagnosed as schizophrenic and 37% had borderline personality disorders. Stressful life situations have been known to precede the onset of symptoms [16–18]. Among children, precipitating factors include the birth of a sibling, poor peer relationships and academic difficulties in school [17,51,54]. The severity of the underlying psychiatric disturbance has not been related to the severity of the hair loss or involvement of multiple sites [18].

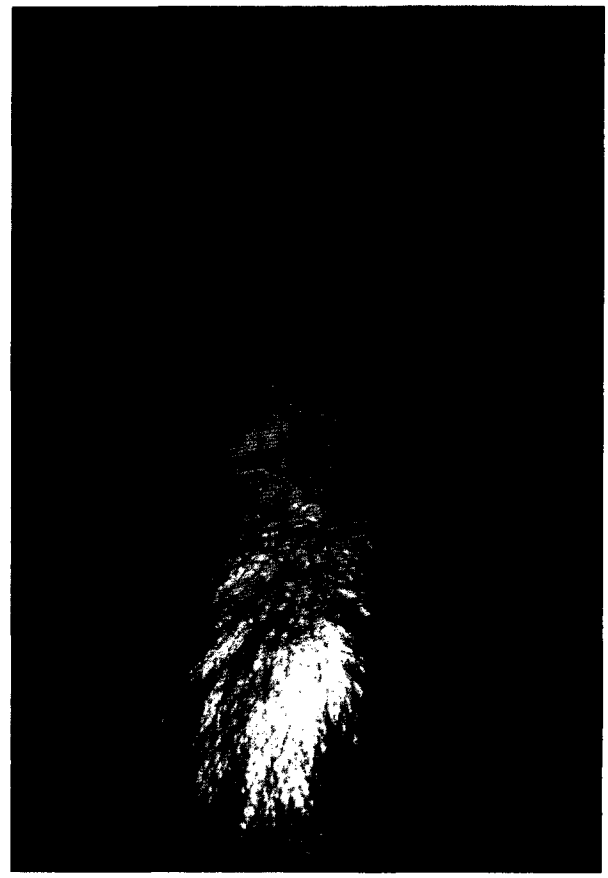

Figure 4. Alopecia secondary to trichotillomania. Note that the affected area is not completely devoid of hair.

Diagnosis

The patients often deny or rationalize the hair-plucking behavior, and the parents also frequently demonstrate denial or rationalization [54]. Mueller et al. [18] have described characteristic changes in the skin biopsy, secondary to traumatic avulsion of the hair shafts, and suggest that a biopsy should be done to confirm the diagnosis. Affected areas of the scalp have been protected by bandage and reexamined after several days for evidence of hair regrowth. Differential diagnosis includes alopecia areata where circular areas of total alopecia appear suddenly and enlarge steadily.

Treatment

A wide range of treatment modalities have been used in an uncontrolled fashion. Treatment of the underlying disorder utilizing psychotherapy and

family therapy in children [50], behavior therapy including thought stopping [55], and aversive conditioning [56,57], simple self-monitoring [58,59], hypnosis [60], and relaxation training [61], have all been reported to be effective. Chlorpromazine [62], Amitriptyline [63], and monoamine oxidase inhibitors [64] have also been used.

Course and Prognosis

In most instances, this disorder is chronic [36,50] and there have been reports of symptoms lasting for up to 17 years [16].

Discussion

The self-inflicted dermatoses are a chronic heterogeneous groups of disorders, reported to be more common among females and are generally associated with different classes of psychopathology. Neurotic excoriations, with peak age at onset of 30–45 years, and trichotillomania, with peak age of onset at 5–12 years, are both compulsive self-mutilative behaviors manifesting as repetitive self-excoriation and compulsive hair-plucking, respectively. In the adult or adolescent, they are both commonly associated with depressive illness. In the child with trichotillomania, various forms of disturbed parent–child relationship may be present. Neurotic excoriations is the most common self-inflicted dermatosis and has been associated with suicide. Dermatitis artefacta has a much more wide ranging age of onset and is associated with a more heterogeneous group of psychiatric disorders, but it is most frequently encountered among individuals with immature personalities in the face of a stressful life situation. Some authors have compared the psychodynamics and course of this disorder with anorexia nervosa. Each patient suspected of having a self-inflicted dermatosis requires a complete physical and psychosocial assessment. Although currently there are no controlled studies evaluating the efficacy of psychiatric intervention in these patients, the literature suggests that management of the underlying psychiatric disorder is the most important feature in the treatment of the dermatologic lesions and in preventing possible serious sequelae such as suicide and repeated major surgical procedures in some of these patients.

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