Self-induced Skin Lesions: A Review of Dermatitis Artefacta

Shilpa Gattu, BS; Rashid M. Rashid, MD, PhD; Amor Khachemoune, MD, CWS

Psychocutaneous conditions are difficult to diagnose and a challenge to treat. Clinical manifestations can be caused by diverse and creative methods from garlic to deodorant. This review discusses the literature on dermatitis artefacta (DA). Although the overall incidence of DA is not known, the importance is emphasized by a strong association with borderline personality disorder (BPD) and dissociation disorders as well as a prevalence of 33% in patients diagnosed with anorexia and bulimia. Furthermore, DA is frustrating for physicians and family members, with a differential diagnosis that includes severely morbid medical conditions. Thus, recognizing and correctly diagnosing DA is critical to avert unnecessary tests, treatments, and frustrations, ultimately allowing for more efficient management and better healing.

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Dermatitis artefacta (DA), or self-induced factitial dermatitis, is a rare pathology of self-induced skin lesions in which patients deny any role in causation.[1] A psychocutaneous disease classified as a factitious disorder, DA was first described in modern literature by Asher[2] in 1951. The *Diagnostic and Statistical Manual of Mental Disorders* (Fourth Edition, Text Revision) provides the following 3 diagnostic criteria for a factitious disorder: (1) intentional production or feigning of physical or psychological signs or symptoms; (2) motivation for the behavior is to assume the sick role; and (3) absence of external incentives for the behavior (eg, economic gain, avoiding legal responsibility, or improving physical well-being, as in malingering).[3]

Patients with DA present with a lesion deliberately produced for the sole purpose of assuming the sick role. As with all factitious disorders, patients with DA waste precious time and resources with unnecessary tests and produce high costs to the healthcare system.[4] Increased awareness of DA can save physicians, patients, and family members many frustrating draining medical visits and allow for better management and healing of this disease.

Prevalence

Dermatitis artefacta is a rare pathology for which overall incidence has not been reported. It has strong ties with other psychiatric pathologies, such as borderline personality disorder (BPD)[5] and anorexia nervosa,[6] and is believed to occur during episodes of dissociation in patients with posttraumatic stress disorder (PTSD) or multiple personality disorder.[5,7] For example, in a study of inpatients with anorexia and bulimia (age range, 8–17 years), DA occurred in 33% (10/30) of patients.[8] There is no literature to date that notes DA in the setting of other body image disorders such as bulimia nervosa (BN) or body dysmorphic disorder. However, BN is a well-known comorbidity of BPD[9]; therefore, DA can present in patients with BPD and BN simultaneously.

Dermatitis artefacta generally is accepted to be more common in females with onset during and after adolescence.[10,11] The actual female predominance is still debatable, as studies have varied in stringency with inconsistent diagnostic criteria and different patient population focus. For example, a recent retrospective study of 57 patients by Nielsen

Ms. Gattu is from the University of California, Irvine Medical Center. Dr. Rashid is from the Department of Dermatology, The University of Texas MD Anderson Cancer Center, Houston. Dr. Khachemoune is from Veterans Affairs Hospital, Brooklyn, New York.

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Correspondence: Rashid M. Rashid, MD, PhD, Department of Dermatology, The University of Texas MD Anderson Cancer Center, 6655 Travis St, Houston, TX 77030-1312 (RashidRashid.MDPhD@yahoo.com).

et al[10] showed DA occurred 2.8 times more often in females than males, and a retrospective study of 29 patients by Saez-de-Ocariz et al[12] noted a 4.7 to 1 female predominance.

Clinical Features, Medical History, and Physical Examination

Clinical presentation and medical history tend to stand out in patients with DA because of certain classic features. Often there is a hollow history in which patients will not give a timeline or an evolution pattern of current skin lesions, which leads to the impression that the lesions appeared without any preceding causative factors (Table).[13]

On physical examination, lesions can vary as much as the creativity behind their causes. Lesions often are bizarrely shaped and oddly distributed, though at sites accessible to the patient.[17] Overall, the pattern of presentation of lesions is secondary to the mechanism of injury and can include blisters, excoriations, superficial erosions, ulcers, abrasions, ecchymosis, purpura, erythema, edema, or signs of trauma and burns (Figure).[12,13,15,16] Patients also may have multiple types of concurrent lesions.[12] It also is important to perform a careful physical examination, as a foreign object source may be found.

Interesting lesion patterns were noted by Saez-de-Ocariz et al.[12] For example, lesions initially presented on the upper extremities in over half the patients, but with time most lesions ultimately appeared on the face in 45% (13/29) of patients.[12]

Clinical Findings of Dermatitis Artefacta

Findings on Medical History and Physical Examination

Patient may bring stack of investigative studies and/or bag of medications[14]

Mona Lisa smile[15]

Patient seems unaffected[14]

Hollow history[13]

Knowledge of/access to medical field[15,16]

Bizarre-shaped, oddly distributed lesions[17]

Lesions located at sites accessible to patient

Multiple types of concurrent lesions[12]

Foreign object source

Blisters, excoriations, superficial erosions, ulcers, abrasions, ecchymosis, purpura, erythema, edema, or signs of trauma and burns[12,13,15,16]

Associated Psychiatric History

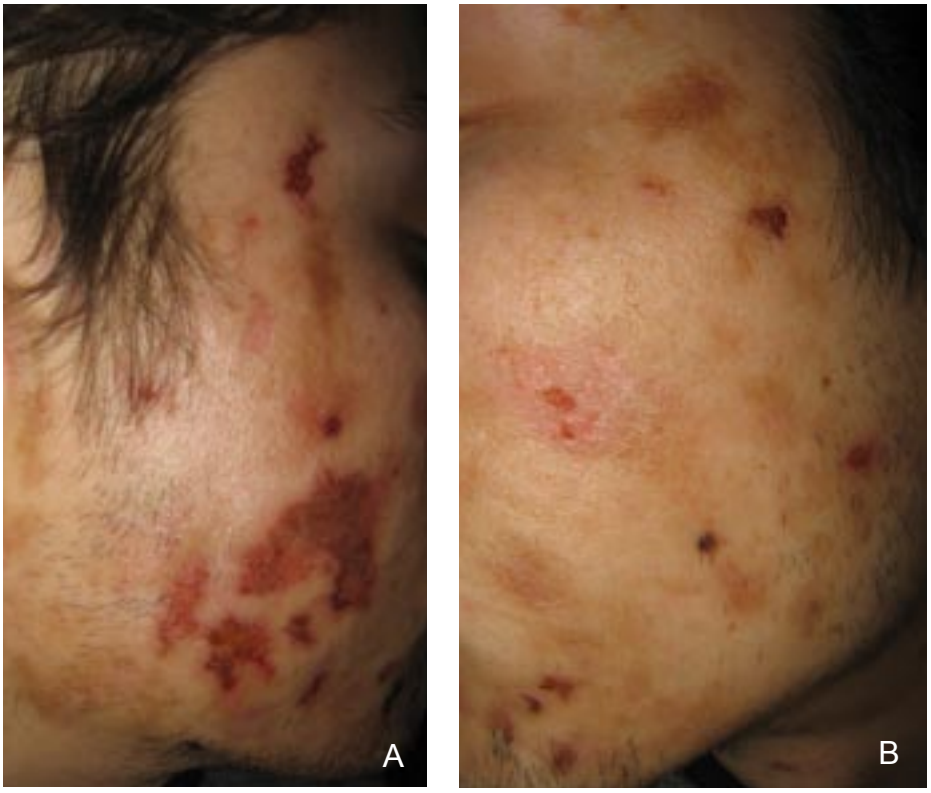
Posttraumatic stress disorder,[7] sexual abuse,[5,17] loss of parent, borderline personality disorder,[5] eating disorders,[8] dissociative symptoms[7]

Histopathology and Pathogenesis

Histopathology is not diagnostic and generally is dependent on the mode of self-injury. A wide range of histopathologic findings have been reported from erosions, acanthotic epidermis, and sparse perivascular infiltrate[18] to a foreign body giant cell reaction with polarizable material.[19] The latter was later identified by the authors as cellulose, which led to suspicion that the patient was injecting herself with foreign material.[19] Commonly the brunt of injury may be restricted to the epidermis with no lymphocyte accumulation or signs of vasculitis.[1] Patients may even refuse skin biopsy, which may elicit suspicion by the physician.

Reported physical causative agents have included every imaginable process. Besides physical traumatic manipulation, it is important to be aware of possible injection and/or application of irritants. Two case studies in 1990[20] and 2006[21] each described soldiers (noted to have low motivation) who presented with erythematous vesicular lesions on the leg that smelled of garlic following the application of fresh garlic. They later confessed that the injury was self-inflicted to be transferred to a better post.[20,21] Another case study noted a 12-year-old girl who had used deodorant spray on her legs that resulted in a bullous dermatitis of 2 months' duration that the patient did not seem to notice.[22] Etiopathology is only limited by the imagination of the patient, as reviews have included an array of traumatic mechanisms from slashing and suctioning to scraping and strangulation.[16,23]

The pathogenesis of DA is predominantly psychiatric. Thus, psychiatric status and background with a careful history are vital to diagnosing DA. Gupta and Gupta[24] stated that patients with PTSD may self-induce skin lesions while experiencing dissociative symptoms and may not have any recollection of the event. Dissociation—defined as a disruption in the usually integrated functions of consciousness, memory, identity, or perception—can be a feature of many psychiatric disorders, including PTSD, BPD, and eating disorders.[3] Gupta and Gupta[24] further stated that PTSD-related symptoms are underrecognized in



Dermatitis artefacta in an adolescent boy. Lesions consist of erythematous erosions and ulcerlike lesions with well-defined margins (A and B).

dermatology. It also is believed that DA is associated with early developmental failure in which patients do not develop a stable body image with clearly defined physical and emotional boundaries. An unstable body image may be secondary to early life experiences.[6,13] Dermatitis artefacta also is strongly associated with immature personality.[17] Other proposed psychosocial factors include sexual abuse or loss of a parent.[17,25] Patients tend to have a profound sense of emptiness, boredom, and/or loneliness, and enter into dependent manipulative relationships.[14] Dermatitis artefacta then develops as an emotional escape valve or an appeal for help in an attempt to fill a need of which the patient is not aware.[16,26]

Repetitive DA episodes may be precipitated by emotional stress and there is strong association with strained personal relationships. However, this emotional stress may be difficult to detect. For example, when patients with DA present, they are not overtly disturbed but are overall friendly and cooperative, particularly if the self-induced trauma occurred during a dissociative state that may have disabled the patient from recalling the incident. This behavior often results in a misdiagnosis of malingering.[27]

Differential Diagnosis

The differential diagnosis for DA lesions is as varied as the appearance of the lesions. A physician must first determine if the lesion was produced accidentally in a traumatic incident, such as a burn, or secondary to an incident of abuse. Dermatologic possibilities, such as vasculitis, cutaneous T cell lymphoma, and pyoderma gangrenosum, also must be considered and ruled out by biopsy and serology.[28,29] The main psychiatric differential diagnoses with skin findings can be a challenge.

Neurotic excoriation, known as acne excoriée when associated with acne, also must be ruled out. Patients will admit and recount picking at the skin, either consciously or subconsciously. Ultimately it is a perceived pathologic process; thus, neurotic excoriations are the result of a conscious compulsive disorder, whereas DA excoriations are consciously produced to satisfy an unperceived psychological need.[14]

Self-cutting, commonly seen in eating disorders and BPD,[30,31] must be distinguished from DA. Self-mutilation often presents in the form of superficial cuts to the skin using a sharp foreign body. It is a conscious effort often performed to "get relief from a terrible state of mind."[32]

Patients with Munchausen syndrome present with more flamboyant personalities, multiple symptoms, and shifting complaints that are not limited to the skin. These patients may demand medication or have a history of peregrination (going from city to city and hospital to hospital) or pseudologia phantastica (uncontrollable lying with fantastic details).[14]

Differentiating the possible psychiatric diagnosis emphasizes the importance of details in the patient's medical history and physical examination, which can be a challenge when patients are not forthcoming or have multiple overlapping psychiatric pathologies.

Diagnosis

Ultimately, diagnosis may require a holistic approach with both dermatologic and psychiatric aspects taken into consideration. Physicians must rely on clinical presentation, careful observation, and detailed history from the patient and family members. It is common for these patients to refuse psychiatric referrals, which may leave the burden on dermatologists alone.[12] A careful systemic approach to diagnosis may be best and includes taking a detailed history and ruling out other pathologies.

When entering the examination room, a physician may note the patient to have a stack of investigative studies and a bag of medications, many duplicated. The patient is unaffected by an obviously painful and puzzling lesion and is accompanied by anxious, eager, angry, and frustrated family members who perceive medical incompetence.[14] While taking the history, the physician may notice the patient rub and/or pick at a lesion and/or have the Mona Lisa smile of innocence.[4,15] Physicians also may note astute medical knowledge in patients with DA and some may have experience or ties to the medical field that provide them the knowledge to produce the lesions without leaving a clear etiology.[15,16] Indirect diagnostic confirmation may be obtained by lesion healing after wound isolation with occlusive dressings. Interestingly, on future visits lesions may appear at sites suggested by the physician as potential lesion sites.[33]

Management

When DA is highly suspected, it is important to avoid performing and repeating lengthy, time consuming, and expensive tests, and better to focus on resolving the more probable psychiatric etiology. Initially, direct confrontation with the patient and the diagnosis is discouraged, as the patient will be in denial and may be lost for follow-up.[14,17] Management must be delicate and a strong rapport with the patient is essential.

Treatment of symptoms with positive measures, such as bland ointments and wet dressings, is best because patients with DA tend to be emotionally attached to the skin.[14] As the condition tends to wax and wane, antidepressants such as selective serotonin reuptake inhibitors (eg, sertraline hydrochloride) may be used in times of exacerbation.[6] Antidepressants may be used because it is believed that most patients with DA have some unidentified psychiatric component, such as PTSD, for which selective serotonin reuptake inhibitors are the mainstay of treatment.[24] It is worth noting that in a small group of 5 patients with DA started on a daily dose of 25 to 50 mg of sertraline and titrated to a mean of 110 mg, recovery was reported in only 1 patient; however, this study was unstructured, unblended, and informal, and it is unclear if a psychiatric component was identified in these patients.[34] If a clear underlying psychiatric disorder exists, treatment should continue indefinitely or until further psychiatric consultation can be obtained.[24]

Psychiatric referral should be carefully considered, as the patient may interpret it as rejection and intensify the self-induced cutaneous lesions. Patients should be referred for psychiatric evaluation only after an adequate patient-physician relationship has been established.[35] However, the usefulness of referral also has been questioned. Nielsen et al[10] suggested psychologic or psychiatric intervention appeared unhelpful because of patient denial.

Prognosis

No association has been noted between psychiatric pathology, length of DA presence, type of lesions, or outcome.[12,15] Although long-term studies are rare, the prognosis is considered poor. However, this statement is controversial. For example, Sneddon and Sneddon[15] followed 43 patients for 22 years and found that nearly one-third (13/43) did not resolve while the rest waxed and waned until final resolution by the end of the study. However, one case report of a patient with long-term DA noted malignant transformation of DA lesions.[36]

Conclusion

Dermatitis artefacta is a rare psychocutaneous condition with an etiopathology that is not completely understood. Prevalence may be higher then perceived, and a female preponderance has been reported. The etiology of DA lesions may be as unique and creative as the patient's imagination. Patient management is a challenge, with friendly patients seeking attention but not responding to direct confrontation or immediate diagnosis. Thus, this condition is detrimental on multiple fronts to the patient, their family members, and the healthcare system. Understanding, recognizing, diagnosing, and managing this condition properly is vital to avoid the frustration that commonly results from DA. Larger, randomized, controlled trials are needed to study the use of antidepressants in the treatment of DA. Furthermore, with deeper psychological issues at play and potential long-term pathologic results, proper management of DA can result in innumerable benefits to the patient and their family members.

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