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Brief Report

Dermatophagia: A case series from a dermatology clinic

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ABSTRACT

Objective: Psychocutaneous diseases, such as dermatophagia, are skin manifestations of psychological distress. Cases of this nature are not well documented. Therefore, this study aimed to record cases of skin biting and perform a complete clinical evaluation. **Methods:** This descriptive case study enrolled sixteen patients treated in a dermatology and psychiatry clinic in Baghdad, Iraq, from 2014 to 2021. All patients with self-inflicted skin disease induced by skin biting were enrolled. A complete medical history was collected and a clinical examination and psychiatric assessment were performed. **Results:** Out of the sixteen patients who had demonstrated self-skin biting (dermatophagia), ten were males and six were females, with a median age of twenty years, ranging from 14 to 45 years. All patients accepted responsibility for their illness. The type of skin manifestation was nail-biting in seven (46.66%) patients, consisting of five (33.3%) patients with nail dystrophy due to proximal nail fold biting and two (13.33%) patients with nail deformity due to grinding of the distal part of all nail plates. Six (40%) patients presented with skin nodules on the dorsal side of their hands, a single nodule in one patient, and multiple in five patients. Two patients (13.33 %) revealed dermatitis-like, pigmented patches on the dorsal aspect of the hand and fingers. Psychological evaluation revealed the absence of psychosis and brain disorders. **Conclusion:** Dermatophagia is an emerging form of psychological health problem that has not been well documented. However, diverse dermatological manifestations localized in the hands, such as nail dystrophy, skin nodules, and chronic, dermatitis-like plaques, have been reported.

Key words: Dermatophagia; Dermatology clinic; Case series; Self-harm; Skin biting

INTRODUCTION

Historical Background

The association between mental disturbances and physical health has been known for centuries. Ancient literature indeed referred to such phenomena, particularly in ancient Mesopotamia and the eastern Mediterranean region. Arab Muslim scholars established the notion of *psychosomatic disorders* (7–10th century), clarifying the cause–effect link between emotional conditions and some medical illnesses that manifested through physical signs [1]. The quote "the sorrow which has no vent in tears may make other organs weep," attributed to Henry Maudsley (1867), metaphorically represents the concept of psychosomatic disorders. He was considered an authority on the link between the body and mind [2]. The proverb "the skin is a mirror of the soul" was conceptualized by numerous researchers in dermatology and psychiatry. Additionally, other terms, such as *skin-ego*, coined by Didier Anzieu, are interpreted as the skin creating an opening for mental problems: *psyche of the skin* [3]. The association between the skin and the nervous system is related to their common embryonic origin; they develop together and remain intimately interconnected and interactive throughout life [3,4].

Psychopathology

Psychological distress may manifest through skin lesions in different presentations, ranging from mild dermatitis to dangerous forms of deliberate self-harm (DSH), mainly skin cutting, burning,

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and complicated excoriation. DSH (intentionally injuring one's own body without a suicidal intent) is commonly encountered in emergency departments, dermatological or other hospital settings, and psychiatric clinics, where psychiatric assessment usually reveals underlying depression, anxiety, obsessive-compulsive disorder (OCD), and/or substance abuse. According to the Diagnostic Statistical Manual of Mental Disorders (DSM-5) and research findings, DSH is a core symptom of borderline personality disorder and occurs within the course of other psychiatric disorders. It may be fatal, representing 1.9% of the violence-related death toll in the eastern Mediterranean region [5]. In contrast, psychocutaneous disorders are usually not life-threatening conditions with a chronic course; however, such clinical presentations may overlap, requiring a robust dermatology–psychiatry liaison. The actual prevalence of non-dangerous self-harm has not been adequately reported in the literature. Previous studies have focused on patients who presented to the hospital for immediate physical treatment, while the number of patients in the non-clinical population has been higher [6,7]. Self-inflicted skin lesions (SISLs) are variable clinical presentations of psychocutaneous diseases. Dermatologists and physicians label such lesions as factitious skin disorders (dermatitis artefacta), usually disregarding the underlying psychopathology or psychiatric referral [8]. SISLs are virtual clusters of psychocutaneous diseases presenting with various psychological and dermatological conditions, one of which is compulsive skin biting. Dermatophagia (from Greek *δερματοφαγια*) is derived from the words *derma* (*δερμα*, *skin*) and *phago* (*φαγω*, *I eat*). The word denotes the eating of the skin, irrespective of whether or not one bites it. Studies on dermatophagia describe patients whose behavior consists solely of compulsive biting or gnawing on their skin, yet not ingesting. Other synonymous terms have also been employed, such as compulsive skin-picking and body-focused, repetitive behaviors [8,9]. Dermatophagia often affects the skin around the fingers and, less commonly, other exposed body parts. People who bite or, sometimes, ingest their skin are rarely encountered in psychiatric settings, possibly because they are unaware of their condition or are avoiding the social stigma of being "mentally ill." However, severe and prolonged skin biting may predispose patients to dermatological complications and irreversible disfigurement. Moreover, this repetitive, compulsive act heightens anxiety and discomfort by trapping the patient in a vicious circle [9,10].

MATERIALS AND METHODS

This descriptive case study was conducted at the Dermatology Outpatient Clinic of Baghdad Teaching Hospital in Baghdad, Iraq, from 2014 to 2021. A consultant dermatologist—the first author—oversaw all patients with SISLs who visited the clinic. Fifteen patients who met the diagnostic criteria of compulsive skin biting were enrolled in the study, and one extra male patient from the Psychiatric Outpatient Clinic presented with serious DSH, totaling sixteen patients. After completing their dermatological examinations and checking medical records, a consultant psychiatrist subjected the patients to a semi-structured DSM-5 interview [11]. The included patients consented in writing to participate in the study and had their skin lesions photographed without revealing their identities. They received a full explanation of the study's goal and were assured confidentiality and the freedom to approve or disapprove their pictures. Formal approval was obtained from the research committee attached to the Iraqi Council of Medical Specialization. A complete physical examination further confirmed the dermatological findings. Patients with skin pathologies related to medical diseases were excluded. Psychiatric assessments were carefully conducted to exclude psychotic disorders, primarily schizophrenia, and organic causes, such as acute brain syndrome, substance abuse, autism spectrum disorder, and intellectual disability (autophagia). A significant number of patients refrained from psychiatric referrals and denied having psychiatric issues. The assigned psychiatrist—the second author—visited the dermatological setting to encourage a positive attitude toward treatment. Two registrars assisted both authors—the consultant dermatologist and consultant psychiatrist—in the multidisciplinary team at the dermatology clinic.

Ethics Statement

The study was conducted under the ethical standards of the responsible committee on human experimentation (institutional and national) and in accordance with the 2008 revision of the Declaration of Helsinki of 1975.

RESULTS

Fifteen patients with a median age of twenty years, ranging from 14 to 45 years, were diagnosed with dermatophagia by the consultant dermatologist and psychiatrist—the authors. Nine males and six females visited the dermatology outpatient clinic seeking

treatment for skin lesions caused by self-picking and biting of their hands. Most of them visited the clinic concerned about their cosmetic appearance. All patients accepted responsibility for their illness. Seven patients (46.66%) presented with excessive nail-biting, consisting of five (71.4%) patients with linear nail dystrophy due to proximal nail fold biting (Fig. 1). Two (28.57%) patients harshly bit the distal part of all nail plates, causing whole nail deformities (Fig. 2a). Six patients (40%) presented with dome-shaped, pigmented nodules on the dorsal sides of both the hands, a single nodule in one patient and multiple in five patients (Fig. 2b). The other two patients (13.33%) had hyperkeratotic pigmented plaques affecting the dorsum of the hand in one patient (Fig. 2c) and scaly, dermatitis-like lesions affected the fingers in the second patient (Fig. 2d). Psychiatric assessments revealed that none of the patients had brain lesions, neurodevelopmental disorders, or intellectual disabilities. Psychotic or bipolar disorder features were absent and none of them had a history of substance abuse. Therefore, we examined the patient with DSH for comparison purposes. The patient with DSH who attended the psychiatric outpatient clinic for treatment was selected. His chief complaint was repeated, self-inflicted cutting with a sharp razor. He described his action as "killing the inner pain" and expressed the feeling of immediate relief after seeing his blood. He denied suicidal intents or attempts. An examination revealed large, surgical scars on both arms and other superficial skin lacerations. A detailed psychiatric assessment revealed symptoms of depression with characteristics of borderline personality disorder; there was no history of alcohol or substance abuse. He presented with a classical form of DSH with dangerous wounds and superficial laceration (Fig. 3).

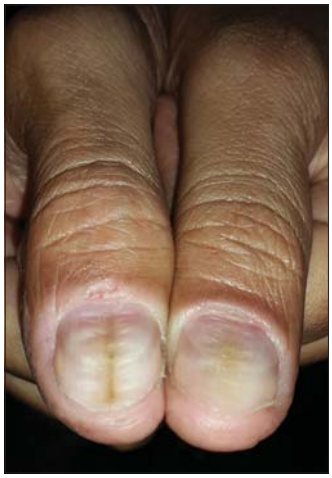

Figure 1: Linear nail dystrophy.

DISCUSSION

Self-inflicted skin lesions in their variable clinical presentations are usually encountered by physicians, general practitioners, and dermatologists, who are aware that many people with such problems do not seek medical treatment. A number of studies have classified skin biting disorders as a form of OCD, while others have included them in the domain of DSH or disorders of impulse control. However, this classification is still debated, owing to variations and sometimes contradictory findings and psychopathology [12].

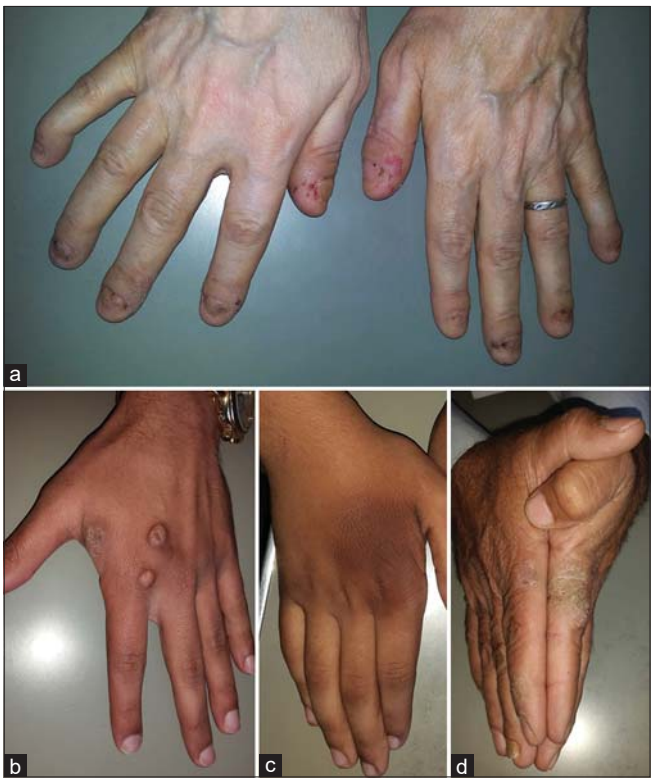

Figure 2: (a) Complete nail dystrophy following nail destruction. (b) Multiple skin nodules. (c):Hyperkeratotic pigmented plaques affecting the dorsum of the hand.(d) Scaly hyperkeratosis.

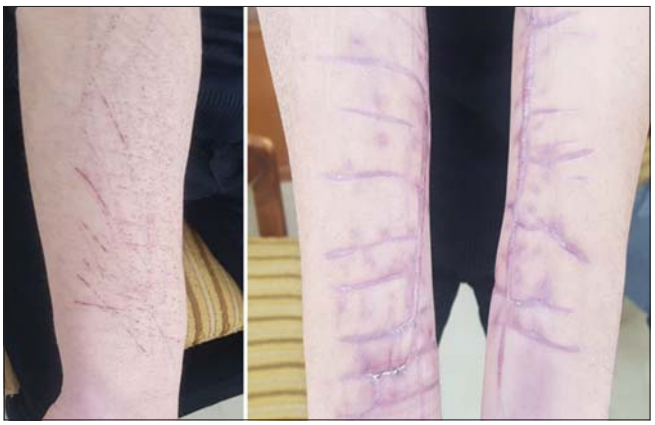

Figure 3: Deep wounds and lacerations (DSH).

Skin biting, such as dermatophagia, gnawing, or eating skin debris, is an internationally underreported SISL. There are no available data from Iraq, apart from a case study by Sharquie et al. and a single case report [13,14]. Inconsistent with numerous psychocutaneous disorders such as dermatitis artefacta and trichotillomania, all fifteen patients in the present study with dermatophagia did not deny their role in the occurrence and exacerbation of their lesions, contrary to what has been reported in other studies [8,10,12-14]. In addition, some patients reported local infections preceding the skin lesions, while others showed calluses caused by chronic friction and accumulation of keratinocytes [15,16]. Patient 16 was a typical example of a severe and dangerous presentation of DSH. Simple forms of DSH mimicking SISL, such as superficial lacerations or burns, may be managed in a dermatology clinic; otherwise, it will be ignored and remain undetected. Therefore, a tactful empathetic approach is important for successful dermatological and psychiatric management [17]. Dermatophagia may occur in people with organic brain pathologies, such as Alzheimer's disease, autism spectrum disorder, and intellectual disability [18]. Occasionally, intermittent dermatophagia may be associated with dissociation, parasuicide, and post-traumatic stress disorders [8,9]. In the same context, mental disorders may precipitate or exacerbate existing dermatological problems, and psychotropic medications may cause allergic dermatitis [8-10,19]. In the same context, psychiatric disorders may precipitate or exacerbate an existing dermatological problem, and psychotropic medications may cause allergic dermatitis [12]. On the other hand, most patients suffering from episodic forms of OCD do not fulfill the diagnostic criteria of classical OCD according to the DSM-5. They are more likely to be categorized between psychopathies (dermatitis artefacta) and DSH [19,20].

The treatment of patients with DSH includes symptomatic therapy, such as topical steroids for patients with skin-biting rash, and other supportive management. Psychiatric management begins with psychoeducation and rapport building, which play a significant role in drug compliance and follow-up. In our study, a typical antidepressant medication—selective serotonin reuptake inhibitors (SSRI)—was administered to patients who presented with symptoms of OCD, anxiety, and underlying depression, together with cognitive behavioral therapy in scheduled sessions run by the clinical psychologist during the follow-up process. Unfortunately, most patients were not ready to provide a detailed history of lesion onset and causative factors. However, the team administering treatment found that inner tension, bouts of anxiety, and depressive symptoms either predisposed individuals to or resulted from compulsive skin biting, which is similar to the results reported in developed countries, despite cultural differences[8,19,20]. This study calls for further, large-scale research on psychocutaneous diseases in Iraq to bridge the data gap and help engineer a specialized unit for better medical care.

CONCLUSION

Self-inflected skin lesions are emerging psychocutaneous disorders that are mostly treated by dermatologists without a psychiatric referral and many patients refrain from medical consultation. Fifteen patients with dermatophagia presented with diverse cutaneous manifestations, mostly nail dystrophy, skin nodules, and dermatitis-like features, limited to the hands. All patients were diagnosed and treated by the dermatologist and psychiatrist. All patients revealed symptoms of OCD with underlying anxiety and depression. Establishing a rapport and liaison management may help patients overcome psychiatric and skin problems and achieve healing. The lack of data mandates extensive future studies in Iraq and other countries.

Statement of Human and Animal Rights

All the procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the 2008 revision of the Declaration of Helsinki of 1975.

Statement of Informed Consent

Informed consent for participation in this study was obtained from all patients.

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