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Neurosis and true dermatosis: a case of ossified pilomatricoma developing within a self-inflicted ulcer

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Abstract

Clinicians have a tendency to dismiss patients with psychiatric illness like skin picking disorder without assessing completely for organic disease. Patients with psychocutaneous disease have the potential to develop true dermatopathology and should always be examined thoroughly. We describe a case of skin picking disorder with underlying pilomatricoma. The patient met criteria for skin picking disorder and had been prescribed numerous topical treatments without efficacy by countless physicians over 18 years. In addition, a pilomatricoma was discovered within a self-inflicted ulcer. Pilomatricomas can rarely result from trauma and develop ossification, both of which were true of this lesion. The prevalence of skin picking disorder proves more pervasive than previously realized and it has only recently been recognized by the DSM-5 as an independent diagnosis. Therefore, it is necessary to clarify the diagnosis as well as remind clinicians not to discount underlying dermatologic disease. In addition to the risk of bleeding and infection, these patients are at risk for masking neoplasms, which should be removed. Our case emphasizes the need for thorough examination of patients with psychocutaneous disease and further work-up when necessary to prevent permanent disfigurement.

Keywords: skin picking disorder, neurosis, pilomatricoma

Introduction

Skin picking disorder (SPD), also referred to as neurotic excoriation, acne excoriee, or dermatillomania, is a psychocutaneous disorder characterized by self-inflicted skin wounds with concomitant impairment in social functioning. It has only recently been

recognized by the Diagnostic and Statistical Manual of Mental Disorders, 5th edition (DSM-5) as an independent diagnosis in the group of obsessive-compulsive disorders [1]. Despite the fact that this disorder stems from psychiatric illness, many patients present to dermatologists first and remain reluctant to see a psychiatrist. Skin picking disorder may also be more prevalent than previously realized. In a United States population-based study, 5.4% of participants reported significant skin picking episodes resulting in negative psychosocial sequelae [2]. Antidepressants are the standard of care for treating SPD and it is tempting to prematurely turn to pharmacotherapy without assessing for a primary skin disorder [3]. We describe herein a case of a patient with SPD and a primary dermatologic diagnosis, to encourage clinicians to perform thorough skin examinations to avoid missing concerning pathology.

Case Synopsis

A 30-year-old woman with a history of severe anxiety and obsessive-compulsive disorder, presented as a new patient to our dermatology clinic for evaluation of a "spot" on her left cheek. The lesion had been present for approximately 18 years. She admitted that she felt a bump under the skin, which drove her to constantly pick at the lesion, resulting in pain and drainage of pus. About two weeks prior to the visit she had picked at and peeled off the skin of the affected area. Past treatments included topical dapsone and several other topical acne medications from previous dermatologists. In addition, her psychiatrist had prescribed bupropion, clonazepam, sertraline, and dextroamphetamine-amphetamine to treat her mental illness.

Physical examination revealed a geographic ulcer 3cm in length with a central deep firm palpable subcutaneous nodule on the left preauricular cheek (**Figure 1A**). Shallow erosions were visible over the right chin and lower cutaneous lip as well as pink and white scars at various stages of healing along the jawline. She began a wound care regimen of topical 0.1% triamcinolone ointment and 2% mupirocin ointment, together with an acne treatment plan to

prevent instigation of further picking. In addition to symptomatic and preventative treatments for her current lesions, we also recommended removal of the subcutaneous nodule for further investigation.

The patient underwent surgical excision of what was originally thought to be a calcified cyst (0.5x0.5cm) secondary to chronic trauma within the left preauricular ulcer. Histopathology revealed a



Figure 1. Skin Picking Disorder. **A)** Physical examination revealed a geographic ulcer 3cm in length with a central deep firm palpable subcutaneous nodule on the left preauricular cheek. Shallow erosions were visible over the right chin and lower cutaneous lip as well as pink and white scars at various stages of healing on the jawline and left eyebrow. **B)** The surgical site healed well and did not undergo further injury, although the patient did continue to pick at other areas of her face. Note new excoriations and scars of left cheek, forehead, and jawline.

dermally based tumor composed of an admixture of matrical cells and shadow cells with focal granulomatous inflammation and ossification lacking cytologic atypia (**Figure 2**). These findings were consistent with a final diagnosis of pilomatricoma with partial ossification. The surgical site healed well and did not undergo further injury, although the patient did continue to pick at other areas of her face (**Figure 1B**).

Case Discussion

The DSM-5 defines SPD as recurrent skin picking resulting in visible lesions causing clinically significant distress with repeated attempts to decrease the behavior [1]. Patients often describe their distress as a rising tension only relieved by picking and followed by intense shame [4]. These episodes can consume inordinate amounts of time and result in infection; the scarring may even require corrective surgery [4]. Medications, illicit substance abuse, medical conditions, and other mental disorders also incite similar behavior and must be ruled out [1]. Primary dermatoses such as scabies, atopic dermatitis, psoriasis, and bullous pemphigoid may also lead to self-injury owing to severe pruritus. Dermatitis artefacta, another psychocutaneous

syndrome, could easily be confused with SPD. However, patients with dermatitis artefacta damage their skin intentionally to assume the patient role and typically deny their behaviors, unlike patients with SPD [5]. Other psychiatric conditions, which may be associated with significant excoriations, include body dysmorphic disorder and delusional infestation [2, 6].

It is estimated that 2% of dermatology clinic patients have SPD [7, 8]. Most patients with this disorder have some insight and will admit to picking even if they do not divulge the full extent of their disease severity [6]. However, with patients that are less forthcoming, one must rely on pertinent physical examination findings. Often the lesions reflect the mechanism by which the damage occurred. Sometimes patients will use tweezers, pins, or other tools; they may simply use their fingers [4]. In general, the lesions appear geographic with varying size and severity. There are often multiple lesions in different stages of healing reflecting the habitual nature of the picking [6]. New lesions may have serosanguinous crust, erosions, or ulceration. Post-inflammatory hyperpigmentation and scarring may also be present [6]. The most common sites affected include the face, cuticles, scalp, arms, and upper back because the patient can easily reach these locations [4].

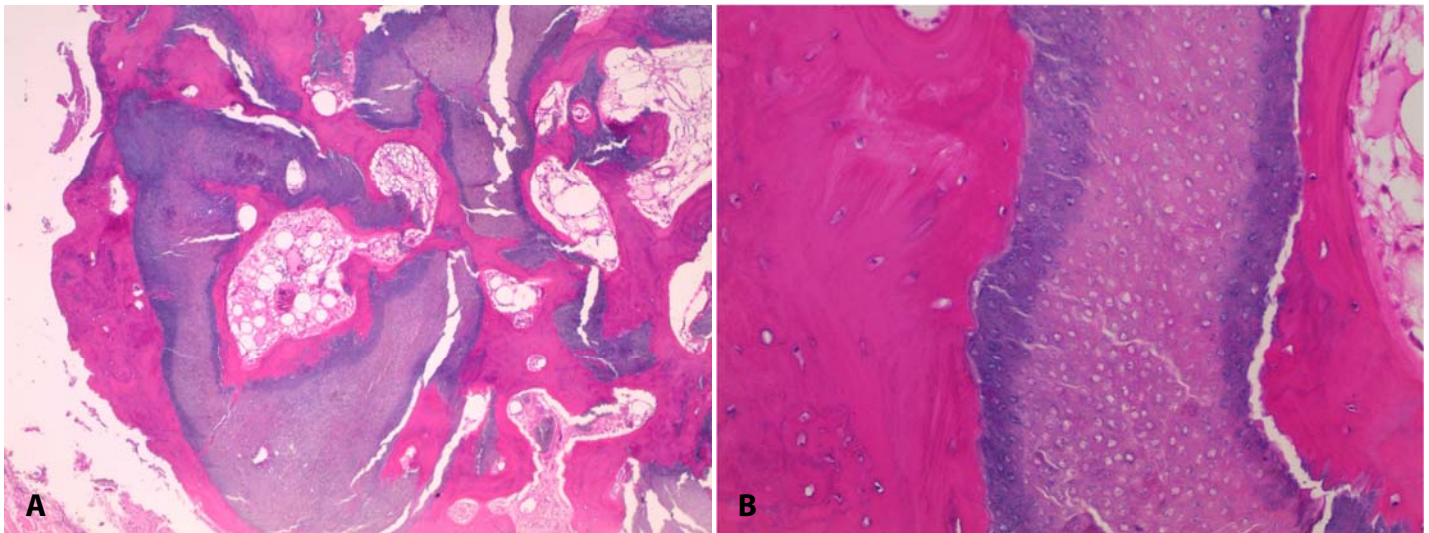


Figure 2. Pilomatricoma. **A)** On low power, there is a well circumscribed, dermally based tumor composed of basaloid cells surrounded by a rim of osteoid. H&E, 40 \times . **B)** High power magnification shows that the basaloid cells have small, uniform nuclei with prominent nucleoli. These cells mature towards the center of the tumor and eventually transform into shadow cells (or ghost cells). When the cells transform into shadow cells, their nuclei are lost, leaving sheets of eosinophilic keratin with the outline of the lost nuclei. Interestingly, this particular tumor also displays partial ossification which is seen towards the periphery of the lesion and is characterized by a dense, eosinophilic matrix containing osteocytes. H&E, 200 \times .

Although patients with SPD may manipulate healthy skin, picking may be triggered by cutaneous stimuli, including acne vulgaris or arthropod bites [4]. Evaluation of these patients necessitates a thorough skin examination to uncover any dermatologic pathology that could be treated. Excision of any organic stimuli found on examination may be prudent not only to evaluate for underlying malignancy, but also to stifle the urge to pick. In this case, the patient had an undiagnosed pilomatricoma in the affected area. A pilomatricoma is a benign cutaneous adnexal tumor with differentiation towards the hair matrix. Pilomatricomas share the same activating mutation in *beta catenin* as its malignant counterpart, pilomatrix carcinoma [9]. The two can only be distinguished histologically and therefore excision of suspicious lesions is recommended for further analysis [9]. Pilomatricomas typically progress in a predictable pattern, beginning as an infundibular matrix cyst and undergoing metaplasia to become a calcified and eventually an ossified nodule with no remaining epithelial component [10]. However, reaching the ossification stage is rare, with only about 2.6% of pilomatricomas becoming ossified in a review of 346

cases [11]. They may also uncommonly result from trauma [12]. Multiple pilomatricomas warrant further investigation, as they can be associated with Gardner syndrome and glioblastoma [13, 14].

Conclusion

As a physician in a busy clinic, it may be tempting to prescribe medications and ointments for symptomatic relief without performing a thorough skin examination. This case highlights the importance of acquiring a complete history and physical examination before dismissing patients with SPD as having a purely psychiatric disorder. For this patient, thorough examination and investigation resulted in the diagnosis of a pilomatricoma, which on removal was found to be ossified. We also advocate for aggressive management of cutaneous triggers, such as acne vulgaris. This will reduce the number of office visits, corrective cosmetic procedures, and hopefully, picking episodes.

Potential conflicts of interest

The authors declare no conflicts of interest.

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