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Commentary

Commentary: Psychodermatology

The skin occupies a unique position as the largest organ of the body, which functions both as a social and psychologic as well as a metabolically active biologic interface between the individual and the environment. It is not surprising, therefore, that diseases of the skin can be associated with psychosocial and psychiatric morbidity among up to one-third of patients.

The skin as an organ of communication

Starting at birth, the skin has a vital function in attachment and remains a powerful organ of communication throughout the life cycle. The role of the skin as an organ of communication is influenced by developmental factors (eg, in the case of the adolescent patient with a disfiguring skin condition) and diverse social and cultural factors as the appearance of the skin in different cultures can reflect a wide range of attributes such as social status and wealth in addition to attractiveness. The skin has a major effect on body image. Teasing and bullying (eg, related to contagion or cosmetic effect of the skin disorder) can lead to significant psychologic sequelae, including increased suicide risk and instances of violent acting out behaviors, especially in the adolescent with a visible skin condition. The social stigma of a visible skin disease can promote embarrassment, social isolation, and result in significant daily hassles for the patient. The stress associated with having to live with a cosmetically disfiguring skin condition can, in turn, exacerbate some stress-reactive dermatoses. The central role of the skin as an organ of communication therefore contributes significantly to the overall psychosocial and psychiatric morbidity in dermatology patients.

Psychologic stress and the skin

The reaction of the skin to stress results in increased sweat gland activity and increased skin conductance; change in skin conductance is considered to be a nearly direct measure of general sympathetic nervous system activity in humans. The afferent sensory nerves in the skin convey sensations for touch, pain, itch, temperature, and other physical stimuli. The efferent autonomic, mainly sympathetic nerves play a role in cutaneous homeostasis by regulating vasomotor and pilomotor functions and the activity of the apocrine and eccrine sweat glands. The skin reacts after traumatic stress experiences where the individuals' capacity to cope is overwhelmed (eg, sexual abuse and trauma of war). Patients with posttraumatic stress disorder (PTSD) may remain in a prolonged state of hyperarousal with a high sympathetic tone, as if the trauma were ongoing. Histamine is a major wake-promoting neurotransmitter in the central nervous system (CNS) and has important effects in CNS arousal and the skin. In PTSD, autonomic nervous system reactivity and the state of sympathetic hyperarousal can manifest as chronic idiopathic urticaria.

Stimulation of the skin, which is richly innervated and has bilateral communication with the CNS, serves as a means of regulating affect and coping with intense emotional states during normal development, such as during infancy, and also in some psychopathologic states associated with emotional hyperarousal, such as PTSD. Excessive cutaneous stimulation and the self-induced dermatoses, including dermatitis artefacta, trichotillomania, and neurotic excoriations, are therefore often a feature of sympathetic hyperarousal that is encountered in PTSD and dissociative states.

The skin is both a target and source of key stress mediators, and the skin's responses to acute stress include an enhanced skin immune function with increased intracutaneous migration of immunocompetent cells, whereas chronic stress may suppress cutaneous immunity, factors that can be important in the perpetuation of a wide range of immunologically mediated and stress-reactive dermatoses.

Sleep and the skin

The skin is important in sleep because of its function in thermoregulation, and sleep is most likely to occur on the declining portion of the core body temperature curve, when the core body temperature is falling the fastest. If

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thermoregulatory function is impaired as a result of a skin disorder and heat is not dissipated as easily through the periphery, sleep onset may be prolonged and the patient may experience a decrease in restorative sleep, a factor that can significantly impair the quality of life and mental health of the patient.

Sleep disturbance due to other symptoms of dermatologic disease, such as pruritus, can also seriously impair the quality of life of patients and their families and has been associated with serious psychopathology, including increased suicide risk. Sleep loss in children with atopic dermatitis (AD) is likely important in the pathogenesis of attention deficit hyperactivity disorder-like symptoms in AD.

Certain primary sleep disorders, such as insomnia and sleep apnea, are associated with increased sympathetic tone, which can directly affect the skin and may contribute to exacerbation and perpetuation of conditions such as psoriasis. Sleep deprivation can inhibit recovery of skin barrier function, be associated with increased natural killer cell activity and plasma proinflammatory cytokines, and potentially lead to the exacerbation of a wide range of dermatologic disorders. A disturbance of sleep–wake patterns is a common and sometimes essential diagnostic feature of psychiatric disorders, such as major depressive disorder and PTSD, and it is conceivable that this has a direct effect on the skin and the clinical course of comorbid dermatologic disorders.

Psychotropic drugs and skin disorders

Psychiatric therapies, including psychotropic agents such as the antidepressants, antianxiety, and antipsychotic drugs, may be used as adjunctive therapies in three major clinical situations: treatment of a dermatologic symptom that represents an underlying psychiatric disorder, such as delusions of parasitosis; management of psychiatric disorders associated with a primary dermatologic disorder, such as major depressive disorder; and, when certain pharmacologic properties of the psychotropic agents are desired, for example, the antihistaminic effect of the tricyclic antidepressants. The clinician should be aware of the adverse dermatologic reactions to psychotropic drugs.

Mood stabilizers, such as lithium carbonate and several antiepileptic drugs, are effective in the management of autonomic nervous system hyperarousal and dysregulation and their effectiveness in dermatologic conditions associated with emotional dysregulation (eg, the self-induced dermatoses) merits further investigation. The placebo response in certain dermatologic conditions can be greater than 30%, and no orally administered psychotropic agents are approved by the U.S. Food and Drug Administration for the treatment of primary dermatologic disorders. Doxepin is a strongly antihistaminic tricyclic antidepressant, and 5% topical doxepin cream is Food and Drug Administration-approved for short-term management of moderate pruritus in conditions such as AD. Randomized controlled trials of psychotropic drugs in dermatologic disorders are lacking, and further studies in this area are necessary, especially as states of sympathetic hyperarousal, which are known to exacerbate dermatologic disorders, can be managed effectively with psychotropic medications.

Psychodermatology is a vast field that addresses a wide range of topics; from basic science research in psychoneuroimmunology to the sociocultural implications of skin disorders, the entire spectrum has important clinical implications. The current issue of the *Clinics in Dermatology* on psychodermatology has addressed these topics while attempting to maintain a largely clinical focus. We are especially fortunate in having been able to bring together a group of outstanding contributors, representing diverse backgrounds, who have generously donated their time and shared their extensive knowledge and expertise for this issue of the *Clinics.* The purpose of this issue is to provide the clinician with a background, using the biopsychosocial model, for the clinical assessment and management of psychosomatic aspects of dermatologic disorders, and hopefully, stimulate interest for further clinical research in this field.

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