EDITORIAL

Psychosomatic paradigms in psoriasis: Psoriasis, stress and mental health

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The human race is exposed to vagaries of life in terms of various hazards; or as the Greek would have it, "we are all but a heartbeat away from disaster." Major cause for psychopathology has been attributed to stress. A catalyst or precipitator of psychiatric illness and a stimulant to substantial mental agony. The term "stress" was coined by Hans Selye (1907-1982) who laid the concept of the adrenocortical system being the vital responder to stress.[1] The more rudimentary term psychosomatic disease mirrors those illnesses whose evolutions are channeled by psychological (thoughts, emotions and behavior) issues; in contrast somatopsychic diseases echoes those where the biologic aspect of the disease affects the psyche.[2] Psychocutaneous medicine impacts on the interaction between the mind, the brain and the skin. The brain and the skin originate from same germ layer i.e., the embryonic ectoderm and are under the influence of the same hormones and neurotransmitters. Psychiatric expertise focuses on the "internal indiscernible disease" conversely dermatological expertise focuses on "external discernible disease." Factors of a psychopathological nature tend to play an etiological role in the development of skin disorders, can exacerbate pre-existing skin disorder as well as patients suffering from dermatological disorders may bear the brunt of disfigurement.[3] Psoriasis being a key disease in the cluster of psychocutaneous disorders, it has become a focus for exploration. Due to the intimate interplay between psychosocial factors and psoriasis, this disease confirms the said definitions.[2]

Psoriasis is a common, chronic, recurrent inflammatory disease of the skin, characterized by circumscribed, erythematous, dry, scaly plaques of varying sizes.[2] The incidence of disease is 1-2% of the general population.[4,5] Stress acts as a catalyst for the onset as well as exacerbation of psoriasis.[6-8] The neurogenic inflammation hypothesis of psoriasis put forth by Farber *et al*. states that neuropeptides like substance *P* (SP) and nerve growth factor (NGF) act as a crux in its pathogenesis. Unmyelinated terminals of sensory fibers in skin release SP and other NP's thereby resulting in generation of local neurogenic inflammation in those who are genetically primed.[1] SP is synthesized in the dorsal root ganglion of nociceptor C fibers and transmitted peripherally in granules. Colocalization with other NP's including calcitonin gene related peptide and vasoactive intestinal peptide (VIP) in cutaneous sensory nerve endings are found via histochemical staining methods.[9]

Stressful life events are associated with higher levels of SP in the central and the peripheral nervous system of animal models.[1] SP expressing neurons are in close and functional proximity of mast cells, which when activated release VIP.[10] Autonomic pathways of the descending type via dorsal root ganglia in the spinal cord through SP containing neurons stimulate release of NP's, the neurons extend onto having connections to opioid interneurons in the dorsal horn. Increased release of adrenocorticotropic hormone, glucocorticoids and adrenalin during stress may be attributed to the stimulation of hypothalamic-pituitary-adrenal axis. Significantly increased expression of NGF in keratinocytes regulates skin innervations and up regulates NP's, this has found to be an early event in the pathogenesis of Psoriasis. NGF causes the proliferation of T lymphocytes and brings about mass cell degranulation resulting in production of a chemokine resulting in production of a chemokine RANTES,which is chemotactic for resting Cd4+ memory t cells and memory t cells.[1]

The severity of psoriasis is found to be ever fluctuating. Individuals are likely to cycle between differing levels of severity throughout their life time. The course of the disease is punctuated by spontaneous flare-ups and remissions.[11] Study done on 141 individuals from 2 settings: An outpatient skin clinic at King's College Hospital and the Psoriasis Association demonstrated that around 60% of those with psoriasis believe that stress/psychological factors are causal.

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Findings confirmed that causal attributions are associated with the psychological impact of psoriasis i.e., people with psoriasis who believe the cause of their psoriasis to be emotional were more likely to experience pathological worry than those who believed cause to be physical. However, perceived stress was not related to psoriasis severity. A level of perceived stress was found to be related to quality of life, depression and anxiety. Findings suggested that stress is not associated to an increase in symptoms, but an increase in the impact the symptoms have on daily life and well-being.[11]

Case-control study conducted on a large population has demonstrated an independent link between stress related disorders and psoriasis.[12] Studies report high rates of stressful incidents having occurred before the onset of psoriasis flares approximately in 68% of adult patients, although they were of uncontrolled nature. In addition, retrospective data have demonstrated that patients with psoriasis report more frequent traumatic experiences in childhood and through adulthood.[13] Both stress and worry were found to be factors that impede clearance of psoriatic lesions in patients being treated with significantly different treatment and placebo arms.[14]

An unhealthy diet and sedentary life-style are quite common in patients with psoriasis than those without.[14] Psoriasis being a chronic and often disfiguring condition, those with it also suffer a marked impairment in quality of life.[15] In contrast to other chronic diseases like heart failure or cancer, psoriasis does not pose to be a life threat despite which its impact is magnanimous.[16] Preoccupation about people's perception of them and avoiding physical contact with others in order to prevent social rejection and shame are beliefs reported by several qualitative studies.[17] Due to the constant skin shedding and exorbitant time consuming treatments aimed at achieving remission, patients may view their lesions as stigmata leading to evolution of guilty feelings with their disease process.[18] Although the potential contributors of depression in psoriasis are numerous, they mostly evolve from poor quality of life and may include increased rates of pruritus, social stigmatization, joint manifestation and poor treatment compliance all of which have been associated with depression in previous studies.[19] Sharma *et al*. found that depression occurred more frequently and that sleep interference was the most common psychiatric symptom. Likely sources of sleep impairment are pruritus, low mood, pain and breathing difficulty. Furthermore, SP is found to play a role in sleep impairment, also proposed in the pathogenesis of psoriasis and may be linked to the relation between psoriasis, depression and sleep quality.[20,21]

The National Psoriasis Foundation, USA states that in addition to the physical impact, psoriasis significantly affects mental and emotional functioning. Psoriasis is independently associated with depression, psoriasis patients are twice as likely to have suicidal thoughts compared with the general population and people with chronic illnesses. 10% of surveyed patients expressed a wish to be dead. The association of psoriasis has also been linked to stress related disorders and behavior disorders.[22] Reports state that the subgroup of patients found to be "stress reactors" appear to have better long-term prognosis and course of disease may be altered by early incorporation of psychosocial interventions.[5] The social and emotional impacts of the disease is greatest among women, young people and minorities.[21]

People with psoriasis report feeling self-conscious, embarrassed and helpless. The physical pain and seriousness of disease, as well as its adverse emotional effects are frequently undermined by others and can lead to a vicious cycle of despair for many with psoriasis. The social stigma associated with the disease state eventually manifests as low self-esteem and contribute to poor psychosocial adjustment.[23] Coping mechanisms such as avoiding being in public, indulging in over-eating and alcohol abuse are often sought by the patients. It can attribute to/exacerbate other serious co-morbid health conditions namely obesity, heart disease.[24-26] This cycle is continued when unaddressed mental health problems prevent patients from effectively managing their disease. Inadequate treatment access can also lead to depression and anxiety. These psycho-social impacts can therefore negatively affect the progression of disease, as stress is a documented trigger for flares of both psoriasis and psoriatic arthritis.[23]

Hence the adverse mental health aspects of psoriasis have multifaceted dimensions, not only do they have a direct psychological bearing, but can also potentially worsen the disease process, thereby amalgamating the psycho-social effects. As a result, state of mental health can interfere with patients' ability to adhere to and respond to treatment. The burden of disease ranging from physical pain, psychological distress and social ostracization further escalates it. Additionally, control of psoriasis symptoms has been associated with improvement in psychological symptoms. Therefore people with psoriasis must receive treatment encompassing primary, specialty and psychiatric care. Lastly, development of quality measures, timely interventions and standards of care related to holistically treating psoriasis patients would help improve care delivery and patient well-being outcomes.

REFERENCES

1. Dimsdale JE, Irwin MR, Keefe PT, Stein MB. Stress and psychiatry. In: Saddock B, Saddock V, Ruiz P, editors. Kaplan and Saddock's Comprehensive Textbook of Psychiatry. 9th ed. Philadelphia, USA: 2009. p. 2407-8.
2. Gupta AK. Psychocutaneous disorders. In: Saddock B, Saddock V, Ruiz P, editors. Kaplan and Saddock's Comprehensive Textbook of Psychiatry. 9th ed. Philadelphia, USA: 2009. p. 2423-4.
3. Rieder E, Tausk F. Psoriasis, a model of dermatologic psychosomatic disease: Psychiatric implications and treatments. Int J Dermatol 2012;51:12-26.

4. Seborrheic dermatitis, psoriasis, recalcitrent palmoplanter eruptions. In: James WD, Berger GT, Elston DM, editors. 10th ed. Canada: Suanders Elsiever; 2006. p. 193.
5. Gupta MA, Gupta AK, Haberman HF. Psoriasis and psychiatry: An update. Gen Hosp Psychiatry 1987;9:157-66.
6. Farber EM, Van Scott EJ. Psoriasis. In: Fitzpatrick TB, Eisen AZ, Wolff K, Freedberg IM, Austin KF, editors. Dermatology in General Medicine. 2nd ed. New York: McGraw-Hill; 1979. p. 233-52.
7. Gupta AK. Psychocutaneous disorders. In: Saddock B, Saddock V, Ruiz P, editors. Kaplan and Saddock's Comprehensive Textbook of Psychiatry. 9th ed. Philadelphia, USA: Lippincotts; 2009. p. 2432-3.
8. Basavaraj KH, Navya MA, Rashmi R. Stress and quality of life in psoriasis: An update. Int J Dermatol 2011;50:783-92.
9. Greaves MW. Peripheral mediators of itching in skin diseases. Pruritis. In: Burns, Brethnach, Cox, Griffiths, editors. Rook's Textbook of Dermatology. 8th ed. Singapore: Wiley Blackwell Publications; 2010. p. 1:21.
10. Suzuki R, Furuno T, McKay DM, Wolvers D, Teshima R, Nakanishi M, *et al*. Direct neurite-mast cell communication *in vitro* occurs via the neuropeptide substance P. J Immunol 1999;163:2410-5.
11. O'Leary CJ, Creamer D, Higgins E, Weinman J. Perceived stress, stress attributions and psychological distress in psoriasis. J Psychosom Res 2004;57:465-71.
12. Schmitt J, Ford DE. Psoriasis is independently associated with psychiatric morbidity and adverse cardiovascular risk factors, but not with cardiovascular events in a population-based sample. J Eur Acad Dermatol Venereol 2010;24:885-92.
13. Levenson J. Psychiatric issues in dermatology, part 1: Atopic dermatitis and psoriasis. Prim Psychiatry 2008;15:35-8.
14. Alsufyani MA, Golant AK, Lebwohl M. Psoriasis and the metabolic syndrome. Dermatol Ther 2010;23:137-43.
15. Kimball AB, Gladman D, Gelfand JM, Gordon K, Horn EJ, Korman NJ, *et al*. National Psoriasis Foundation clinical consensus on psoriasis comorbidities and recommendations for screening. J Am Acad Dermatol 2008;58:1031-42.
16. Fortune DG, Richards HL, Griffiths CE. Psychologic factors in psoriasis: Consequences, mechanisms, and interventions. Dermatol Clin 2005;23:681-94.
17. Ginsburg IH, Link BG. Psychosocial consequences of rejection and stigma feelings in psoriasis patients. Int J Dermatol 1993;32:587-91.
18. Koblenzer CS. The emotional impact of chronic and disabling skin disease: A psychoanalytic perspective. Dermatol Clin 2005;23:619-27.
19. Kimball AB, Jacobson C, Weiss S, Vreeland MG, Wu Y. The psychosocial burden of psoriasis. Am J Clin Dermatol 2005;6:383-92.
20. Sharma N, Koranne RV, Singh RK. Psychiatric morbidity in psoriasis and vitiligo: A comparative study. J Dermatol 2001;28:419-23.
21. Gupta MA, Gupta AK, Ellis CN, Voorhees JJ. Some psychosomatic aspects of psoriasis. Adv Dermatol 1990;5:21-30.
22. Gowda S, Goldblum OM, McCall WV, Feldman SR. Factors affecting sleep quality in patients with psoriasis. J Am Acad Dermatol 2010;63:114-23.
23. National Psoriasis Foundation. Mental health issue brief. Jan 2011.
24. Gelfand JM, Dommasch ED, Shin DB, Azfar RS, Kurd SK, Wang X, *et al*. The risk of stroke in patients with psoriasis. J Invest Dermatol 2009;129:2411-8.
25. Prodanovich S, Kirsner RS, Kravetz JD, Ma F, Martinez L, Federman DG. Association of psoriasis with coronary artery, cerebrovascular, and peripheral vascular diseases and mortality. Arch Dermatol 2009;145:700-3.
26. Herron MD, Hinckley M, Hoffman MS, Papenfuss J, Hansen CB, Callis KP, *et al*. Impact of obesity and smoking on psoriasis presentation and management. Arch Dermatol 2005;141:1527-34.