



The skin and the mind

BACKGROUND

The intimate relationship of the skin and the mind illustrates the importance of a holistic approach in caring for patients with skin problems. Habits related to psychological problems may lead to skin problems such as lichen simplex chronicus and acne excoriée. Emotional stress may affect skin diseases such as atopic dermatitis, perioral dermatitis, pompholyx, and plaque psoriasis.

OBJECTIVE

This article describes the relationship between the mind and skin disease.

DISCUSSION

Skin disease can exert a profound effect on the psychosocial dimension of a patient's life. Its effect on quality of life can be objectively assessed and documented by validated tools specific for the skin. Patient rated measures should be taken into account when evaluating the efficacy and adverse effects of treatments for skin disease.

Around 15% of all encounters in general practice in Australia are related to the skin.¹ The relationship of the skin and the mind serve as a good example of the intimate association between our physical and mental health. It also illustrates the importance of a holistic approach in caring for patients.

Psychological habits leading to skin problems

Lichen simplex chronicus is a typical example of a habit leading to a dermatological problem. The patient scratches and rubs a skin lesion repetitively. Anxiety is common.² The site of the lesion is typically unilateral and reachable by the dominant hand. The nape of the neck, forearms, elbows, scrotal skin, legs, and ankles are predilected sites. Typical lesions are intensely pruritic with lichenification (*Figure 1*).

Lichen amyloidosis commonly presents as pruritic brownish hyperkeratotic papules on the legs and feet and may result from chronic scratching due to lichen simplex chronicus. Scratching may lead to necrosis of keratinocytes resulting in amyloid deposition in the papillary dermis.³ Management is difficult if the patient keeps on scratching. Time and patience are required to educate the patient about the core aetiology of their problem. Adequate symptomatic relief of pruritus is equally important. Potent topical corticosteroids may be indicated, provided there are no contraindications. Topical treatment may be advised with occlusion; occlusion enhances delivery of the drug and prevents the patient from scratching. Antihistamines such as hydroxyzine may have additional benefit as anxiolytic medications.

Another habitually related skin problem is acne excoriée

due to repeated picking. Pitted scars are typical (*Figure 2*) but hypertrophic scars and keloids are also seen in predisposed individuals. Depression, anxiety,⁴ and other psychological comorbidities⁵ should be explored. Cognitive psychotherapy may be needed to stop the patient from further picking.⁶ Pulsed dye laser treatment may be beneficial for managing the scars by resurfacing.⁶

Emotional stress affecting skin diseases

Psychological stress may be an acquired factor affecting the expression of atopic dermatitis.⁷ Specifically, stress is thought to exert effects on immunomodulation which turns on a hypersensitivity response.⁷ Stress may lead to the release of noradrenalin, enhancing the migration of skin dendritic cells to lymph nodes and lead to increased T cell responses.⁸ Stressful events, playing video games, and frequently ringing mobile phones⁹ have been reported to be associated with increased serum IgE levels and a skew cytokine pattern toward Th2 type. Relaxation, self control of scratching and stress management are effective in the long term control of atopic dermatitis.¹⁰

Perioral dermatitis presents with papules, papulovesicles, and papulopustules mainly over the perioral areas. The periorbital areas may also be involved. Comedones are absent. Perioral dermatitis may be associated with the over treatment of topical corticosteroids. Mainly affecting the face, it has a significant cosmetic impact resulting in psychological stress. Perioral dermatitis has been reported to be associated with nervousness, insomnia, headaches and fatigue.¹¹ Successful management depends on appropriately addressing the physical and

Antonio Chuh

MD(HK), FRACGP, MRCP(UK), FRCP(Irel), is Associate Professor, Department of Community and Family Medicine, The University of Hong Kong, Prince of Wales Hospital, Shatin, New Territories, Hong Kong. achuh@iohk.com

William Wong

DCH(UK), MRCPGP, is Assistant Professor, Department of Community and Family Medicine, The University of Hong Kong, Prince of Wales Hospital, Shatin, New Territories, Hong Kong.

Vijay Zawar

MBBS, MD, DNB, DV&D, is Consultant Dermatologist and Lecturer, Department of Dermatology, NDMVPS Medical College and Research Center, Nashik, Maharashtra State, India.

psychosocial problems of the patient and the avoidance of potent topical corticosteroids.

Dyshidrotic dermatitis, or pompholyx, is dermatitis of palmoplantar surfaces characterised by a pruritic, tense vesicular eruption. It is associated with atopic tendency and nickel hypersensitivity,¹² stress, and psychological distress.^{13,14} Biofeedback training has been



Figure 1. Lichen simplex chronicus presenting as an intensely pruritic solitary patch with lichenification on the dorsum of ankle



Figure 2. Pitted scars in acne excoriée due to repeated picking

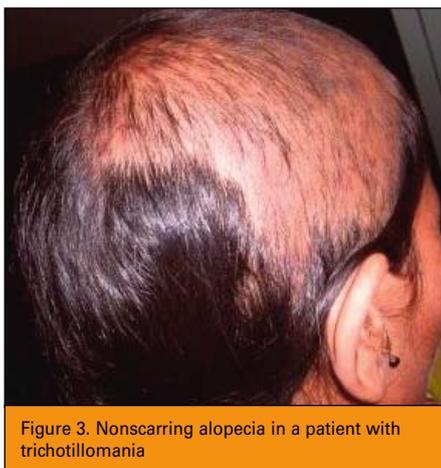


Figure 3. Nonscarring alopecia in a patient with trichotillomania

reported to be effective for patients recalcitrant to other treatment modalities.¹⁵

Emotional stress is a precipitating factor in acute attacks of plaque psoriasis,¹⁶ both in children and adults.¹⁷ Hypnosis may be effective in inducing symptomatic remission for some patients.¹⁸ Psychological stress is also a precipitating factor for palmoplantar pustulosis.¹⁹

Quality of life

Dermatological diseases have a profound effect on the emotional, sexual, and social aspects of a patient's life. The impairment of health related quality of life is usually measured by validated questionnaires. Questionnaires specifically applicable to skin conditions include: the Dermatology Life Quality Index,²⁰ Skindex,²¹ Dermatology Quality of Life Scales,²² Dermatology Specific Quality of Life,²³ Children Dermatology Life Quality Index,²⁴ Psoriasis Disability Index,²⁵ and the Acne Disability Index.²⁶

In clinical trials, the best evidence for efficacy of a treatment should not be limited to evidence on its efficacy in controlling rash, but also its significant impact on the patient's quality of life. What patients perceive as important should at least bear the same, if not more, weight than what the GP can measure.

Psychiatric and neurological diseases leading to skin problems

Many psychiatric and neurological diseases may directly lead to skin problems. A notable example is restless legs syndrome wherein the patient experiences unpleasant crawling, creeping, and tingling sensations on the legs accompanied by involuntary kicking, particularly at night. Patients typically describe the sensation as 'insects crawling under the skin'.²⁷ The syndrome may be

familial, transmitted in an autosomal dominant inheritance with variable penetrance, while secondary causes such as chronic renal failure and diabetes mellitus may be responsible in some cases.²⁸ Treatment aims to exclude underlying causes and control symptoms with dopamine agonists, opioids, or benzodiazepines.²⁸

Patients with parasitophobia have a morbid fear of parasites, mainly ectoparasites such as mites on their skin. The characteristic history is that of the patient consulting different doctors, presenting with skin scrapings collected by themselves – what they believe are the evidence of infestation. Focal excoriations and erosions on the arms and legs may be present. Genuine infestations such as scabies or body lice should be investigated. Psychiatric opinion is frequently indicated, but may be declined by the patient.

Psychiatric disease presenting as factitious skin disease

While patients with parasitophobia believe they are infested, patients with factitious skin disease believe they do not have a problem yet voluntarily induce trauma or injury to their skin.

In dermatitis artefacta, the patient self induces skin lesions and consults medical practitioners to satisfy internal psychological needs. They deny having a psychological or psychiatric disorder and usually decline referral to a psychiatrist. Many sufferers are adolescent or early adulthood females.²⁹ Presentation may be as lymphoedema,³⁰ cellulitis,³¹ or panniculitis.³²

Munchausen syndrome denotes the deliberate production of clinical signs generally affecting men with psychopathic personality disorders. Dermatitis artefacta, for which the signs present as skin lesions, is a manifestation of Munchausen syndrome. Children can present with dermatitis



Figure 4. Morbilliform eruption due to carbamazepine



Figure 5. Psoriasiform eruption related to an antipsychotic agent

artefacta with underlying anxiety, depression, or personality disorder so as to seek the attention of their parents.³³

Trichotillomania is voluntary and repetitive hair manipulation and plucking. The manipulation typically occurs while the patient is engaged in routine daily activities rather than in the heat of emotional distress. Bezoars may occur in the gastric antrum as a result. Other self injurious habits such as skin picking may co-exist. Examination would reveal nonscarring alopecia of single or multiple patches, mostly located at the scalp margins (*Figure 3*). The underlying causes are complex, but patients frequently have traumatic events in their childhood.³⁴ It is a common cause of alopecia in children.³⁵

Neurological and psychiatric medications and skin rashes

Neurological and psychiatric medications lead to a range of cutaneous rashes including morbilliform eruptions, urticaria, photosensitivity, pigmentary problems, acne, alopecia, fixed drug eruptions, lichenoid reactions, and psoriasiform eruptions (*Figure 4–6*).^{36,37}

On the other hand, psychiatric medications frequently have an active therapeutic effect on many dermatoses. Tricyclic antidepressants may be helpful in the control of chronic idiopathic pruritus,³⁸ chronic urticaria,³⁹ and chronic neurotic excoriations.⁴⁰ Serotonin reuptake inhibitors may be effective in obsessive compulsive skin manipulation.⁴¹

Discussion

The cutis and the psyche are inseparable. In the management of skin disease, as with any health problem, doctors should not limit themselves as to treat the disease. In patients presenting with

skin problems, it is important to consider the broader perspective and adopt a holistic approach. General practitioners have the advantage of offering long term continuous care for their patients. They know their patients (and in many cases their families) well, and are in an excellent position to offer high quality care.

Conflict of interest: none declared.

References

1. Britt H, Miller GC, Knox S, et al. General practice activity in Australia 2003–04. AIHW Cat. No. GEP 16 Canberra: Australian Institute of Health and Welfare, General Practice Series No. 16.
2. Shenefelt PD. Biofeedback, cognitive behavioural methods, and hypnosis in dermatology: is it all in your mind? *Dermatol Ther* 2003;16:114–22.
3. Weyers W, Weyers I, Bonczkowitz M, Diaz-Cascajo C, Schill WB. Lichen amyloidosis: a consequence of scratching. *J Am Acad Dermatol* 1997;37:923–8.
4. Gupta MA, Gupta AK, Schork NJ. Psychosomatic study of self excoriative behaviour among male acne patients: preliminary observations. *Int J Dermatol* 1994;33:846–8.
5. Bach M, Bach D. Psychiatric and psychometric issues in acne excoriee. *Psychother Psychosom* 1993;60:207–10.
6. Bowes LE, Alster TS. Treatment of facial scarring and ulceration resulting from acne excoriee with 585-nm pulsed dye laser irradiation and cognitive psychotherapy. *Dermatol Surg* 2004;30:934–8.
7. Wright RJ, Cohen RT, Cohen S. The impact of stress on the development and expression of atopy. *Curr Opin Allergy Clin Immunol* 2005;5:23–9.
8. Saint-Mezard P, Chavagnac C, Bosset S, et al. Psychological stress exerts an adjuvant effect on skin dendritic cell functions in vivo. *J Immunol* 2003;171:4073–80.
9. Kimata H. Enhancement of allergic skin wheal responses in patients with atopic eczema/dermatitis syndrome by playing video games or by a frequently ringing mobile phone. *Eur J Clin Invest* 2003;33:513–7.
10. Ehlers A, Stangier U, Gieler U. Treatment of atopic dermatitis: a comparison of psychological and dermatological approaches to relapse prevention. *J Consult Clin Psychol* 1995;63:624–35.
11. Wilsch L, Hornstein OP. Statistical studies and results of treatment of patients with perioral dermatitis. *Z Psychosom Med Psychoanal* 1976;22:115–25.
12. Lodi A, Betti R, Chiarelli G, Urbani CE, Crosti C. Epidemiological, clinical and allergological observations on pompholyx. *Contact Dermatitis* 1992;26:17–21.
13. Landow K. Hand dermatitis. The perennial scourge. *Postgrad Med* 1998;103:141–2, 145–8, 151–2.
14. Niemeier V, Nippesen M, Kupfer J, Schill WB, Gieler U. Psychological factors associated with hand dermatoses: which subgroup needs additional psychological care? *Br J Dermatol* 2002;146:1031–7.
15. Koldys KW, Meyer RP. Biofeedback training in the therapy of dyshidrosis. *Cutis* 1979;24:219–21.
16. Raychaudhuri SP, Gross J. Psoriasis risk factors: role of lifestyle practices. *Cutis* 2000;66:348–52.
17. Raychaudhuri SP, Gross J. A comparative study of paediatric onset psoriasis with adult onset psoriasis. *Pediatr Dermatol* 2000;17:174–8.
18. Tausk F, Whitmore SE. A pilot study of hypnosis in the treatment of patients with psoriasis. *Psychother Psychosom* 1999;68:221–5.
19. Saez-Rodriguez M, Noda-Cabrera A, Alvarez-Tejera S, et al. The role of psychological factors in palmoplantar pustulosis. *J Eur Acad Dermatol Venereol* 2002;16:325–7.
20. Finlay AY, Khan GK. Dermatology Life Quality Index (DLQI): a simple practical measure for routine clinical use. *Clin Exp Dermatol* 1994;19:210–6.
21. Chren M-M, Lasek RJ, Quinn LM. Skindex, a quality of life measure for patients with skin disease: reliability, validity and responsiveness. *J Invest Dermatol* 1996;107:707–13.
22. Morgan M, McCreedy R, Simpson J. Dermatology quality of life scales: a measure of the impact of skin diseases. *Br J Dermatol* 1997;136:202–6.
23. Anderson RT, Rajagopalan R. Development and validation of a quality of life instrument for cutaneous diseases. *J Am Acad Dermatol* 1997;37:41–50.
24. Lewis-Jones MS, Finlay AY. The Children's Dermatology Life Quality Index (CDLQI): initial validation and practical use. *Br J Dermatol* 1995;132:942–9.
25. Finlay AY, Kelly SE. Psoriasis: an index of disability. *Clin Exp Dermatol* 1987;12:8–11.
26. Motley RJ, Finlay AY. How much disability is caused by acne? *Clin Exp Dermatol* 1989;14:194–8.
27. Stiasny K, Wetter TC, Trenkwalder C, Oertel WH. Restless legs syndrome and its treatment by dopamine agonists. *Parkinsonism Relat Disord* 2000;7:21–5.
28. Sitaru C, Cristea V, Florea SM. Restless legs syndrome: relevant aspects for internal medicine specialists. *Rom J Intern Med* 1999;37:275–86.
29. Koblenzer CS. Dermatitis artefacta. Clinical features and approaches to treatment. *Am J Clin Dermatol* 2000;1:47–55.
30. Smith RJ. Factitious lymphedema of the hand. *J Bone Joint Surg Am* 1975;57:89–94.
31. Steinman R, Mendelson J, Portnoy J. Self inoculation with milk as a cause of recurrent cellulitis. *Can Med Assoc J* 1975;112:605–6.
32. Falagas ME, Christopoulou M, Rosmarakis ES, Vlastou C. Munchausen's syndrome presenting as severe panniculitis. *Int J Clin Pract* 2004;58:720–2.
33. Saez-de-Ocariz M, Orozco-Covarrubias L, Mora-Magana I, Duran-McKinster C, Tamayo-Sanchez L, Gutierrez-Castrellon P, Ruiz-Maldonado R. Dermatitis artefacta in paediatric patients: experience at the National Institute of Pediatrics. *Pediatr Dermatol* 2004;21:205–11.
34. Lochner C, Seedat S, Hemmings SM, et al. Dissociative experiences in obsessive-compulsive disorder and trichotillomania: clinical and genetic findings. *Compr Psychiatry* 2004;45:384–91.
35. Tay YK, Levy ML, Metry DW. Trichotillomania in childhood: case series and review. *Pediatrics* 2004;113:494–8.
36. Wong IC, Lhatoo SD. Adverse reactions to new anticonvulsant drugs. *Drug Saf* 2000;23:35–56.
37. Garnis-Jones S. Dermatologic side effects of psychopharmacologic agents. *Dermatol Clin* 1996;14:503–8.
38. Tennyson H, Levine N. Neurotropic and psychotropic drugs in dermatology. *Dermatol Clin* 2001;19:179–97.
39. Rao KS, Menon PK, Hilman BC, Sebastian CS, Bairnsfather L. Duration of the suppressive effect of tricyclic antidepressants on histamine induced wheal and flare reactions in human skin. *J Allergy Clin Immunol* 1988;82:752–7.
40. Harris BA, Sherertz EF, Flowers FP. Improvement of chronic neurotic excoriations with oral doxepin therapy. *Int J Dermatol* 1987;26:541–3.
41. Bloch MR, Elliott M, Thompson H, Koran LM. Fluoxetine in pathologic skin picking: open label and double blind results. *Psychosomatics* 2001;42:314–9.



Figure 6. Photosensitivity due to amitriptyline