

Psoriasis and Psychiatry: An Update

Madhulika A. Gupta, M.D., FRCP(C)*

Psychodermatology Clinic, Department of Psychiatry, Toronto Western Hospital, University of Toronto, Toronto, Ontario, Canada

Aditya K. Gupta, M.A., M.D.

Department of Dermatology, University of Michigan, Ann Arbor, Michigan

Herbert F. Haberman, M.D., FRCP(C)

Division of Dermatology, Department of Medicine, Toronto Western Hospital, University of Toronto, Toronto, Ontario, Canada

Abstract: Psychosocial factors are important in the onset and/or exacerbation of psoriasis in 40%–80% of cases. Yet psoriasis has received little attention in the recent psychiatric literature. A subgroup of psoriatics appear to be “stress reactors” and these patients may have a better long-term prognosis. Identification of such patients early in the course of treatment and incorporation of specific psychosocial interventions in their overall treatment regimen may improve the course of illness. Psoriasis has also been associated with suicide and an increased prevalence of alcoholism. The disturbances in body image perception and the effect of psoriasis on interpersonal, social, and occupational functioning can further contribute to the overall morbidity, especially if psoriasis first occurs during a developmentally critical period like adolescence. Certain biochemical and physiologic correlates of psoriasis of interest to the psychiatrist such as exacerbation of psoriasis with lithium therapy and increased cutaneous blood flow are discussed. Finally, some practical guidelines are provided for psychosocial interventions in psoriasis.

Psoriasis is a chronic cutaneous condition with a 1%–2% prevalence in the general population [1]. Both genetic and environmental factors are believed to play an important role in the pathogenesis of this disorder [1]. Psoriasis is associated with an increased rate of proliferation of the epidermal cells; the characteristic lesions are deep red, thickly scaling plaques that may affect any region of the

skin. Psychosocial factors have been implicated by some as being important in the onset and/or exacerbation of psoriasis in 40% [2–5] to 80% [6,7] of cases. Furthermore, psoriasis has been associated with suicide [8], and an increased prevalence of alcoholism in comparison with other chronic dermatologic disorders [9], and a range of personality characteristics (Table 1) [3–7, 10–18]. In the dermatologic literature, psoriasis has been classified as a disorder where emotional and constitutional factors “collaborate in different degrees” [20]. In the psychiatric literature, psoriasis is listed under psychosomatic disorders, or a disorder where psychologic factors affect the physical condition [21]. However, in spite of the fact that psoriasis may be significantly affected by psychosocial factors and be associated with potentially serious and life-threatening psychopathology, it has received very little attention in the recent psychiatric literature. Knowledge of the psychiatric and psychosocial concomitants of psoriasis is not only important for the consultation–liaison psychiatrist, but also for general psychiatrists, who will most likely encounter patients with this common disorder in their practice.

This paper critically evaluates the literature on the psychosocial aspects of psoriasis and reviews it under the following four major headings: 1) role of psychosocial “stress” in the onset or exacerbation of psoriasis, 2) association of psoriasis and psy-

*Currently also with the Department of Psychiatry, University of Michigan, Ann Arbor, MI.

Table 1. Literature on the psychosocial aspects of psoriasis

Author(s) Year of Publication	N	Nature of Psoriatic Subjects	Nature of Controls	Psychosocial Measures	Result
Wittkower [3] 1946	86	Military patients	No controls	Clinical interviews	a) No one personality type in psoriasis b) In 40% cases, emotional factors believed to be important basis for psoriasis c) 16% were "psychiatrically ill" with a range of diagnoses, e.g., hysteria; reactive depression, psychopathic personality.
Susskind et al. [4] 1959	20	Inpatients	No controls	Maudsley Medical Questionnaire (MMQ)	a) MMQ scores not significantly elevated b) In 40% cases psychologic factors associated with onset of psoriasis, in 70% cases, they were associated with relapse.
Goldsmith et al. [10] 1969	13	Inpatients	Heterogenous group of 13 dermatologic inpatients	a) Minnesota Multiphasic Personality Inventory (MMPI) b) Maudsley Personality Inventory (MPI)	a) Increased scores in psychasthenia and hysteria subscales MMPI b) No significant difference between MPI scores
Baughman et al. [11] 1971	200	Inpatients	No controls	Social Readjustment Rating Scale (Holmes and Rahe), used retrospectively over 5 years b) Cattels 16 PF test	a) "Modest but significant" correlation between stress and severity of psoriasis at 0.28 b) Personality profile scores within normal range.
Gilbert et al. [6] 1973	63	48 inpatients 15 outpatients	15 inpatients with other dermatoses	a) Self-rating questionnaire retrospectively assessing the relationship of anxiety to psoriasis b) California Personality Inventory	a) 38% inpatients reported flare ups "always" associated with "worry" 42% reported flare ups "sometimes" associated with "worry" 26% con-

(continued)

Author(s) Year of Publication	N	Nature of Psoriatic Subjects	Nature of Controls	Psychosocial Measures	Result
				(CPI) c) MMPI	sumed "tranquilizer" to control psoriasis 20% consumed "moderate to heavy" amounts of alcohol b) No significant abnormalities on the CPI and MMPI.
Jobling [12] 1976	180	Members of the Psoriasis Association of the United Kingdom	No controls	Author's own self-rating questionnaire	84% reported "worst thing" about having psoriasis was difficulty encountered in establishing social contacts and embarrassment about appearance.
Van der Schaar [13] 1976/77	48	Outpatients	"Psychosomatic patients" with asthma, coronary artery disease, dysmenorrhea and vasomotor rhinitis	a) Amsterdam Biographic Questionnaire (Wilde, 1963) b) Social Anxiety Scale (Willens et al, 1973)	a) No difference between psoriatics and controls in neuroticism, extroversion and self-defensive scores b) In both sexes social anxiety scores did not differ from normals.
Seville [5] 1977	132	Patients whose psoriasis had responded well to treatment followed up for 3 years	130 patients with upper respiratory infections and benign or malignant skin tumors	Patients asked if they had experienced a major upset or illness just before onset of rash	a) 39% psoriatics versus 10% controls recalled "specific stress" 1 month before onset of symptoms b) Relapse rate was lower when rash followed "stress."
Roenigk et al. [14] 1978	84	Inpatients and outpatients	No controls	Authors' own self-rating scale	a) Psychosocial life of females more affected than males b) Authors attribute above to "females being more conscious of their appearance than males."
Shanon [15] 1979	100	Patients who had been incarcerated during war	No controls	a) Thorough life history	72% cases psoriasis "stressogenic"

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Author(s) Year of Publication	N	Nature of Psoriatic Subjects	Nature of Controls	Psychosocial Measures	Result
				b) Author's own "7 point approach"	16% cases psoriasis "conflictogenic" 5% cases psoriasis "conflictogenic, preceded by stress" 7% no conclusion.
Fava et al. [7] 1980	20	Inpatients	20 inpatients with chronic urticaria 20 inpatients with fungal infections	a) Paykel's life events questionnaire used in semistructured interview b) Kellner-Sheffield Symptom Rating Test (SRT) c) Schalling-Sifneos Personality Scale for Alexithymia	a) 80% psoriatics, 90% patients with chronic urticaria vs. 50% patients with fungal infections reported at least 1 life event 6 months prior to onset of symptoms b) Patients with psoriasis and urticaria had higher anxiety, depression and inadequacy scores than patients with fungal infections c) No significant difference between groups in alexithymia ratings.
Matussek et al. [16] 1985	38	Inpatients and outpatients	113 depressives 32 healthy controls	Questionnaire for Measuring Factors of Aggression (FAF) (Hampel, 1975)	Psoriatics demonstrated "highest spontaneous aggression", "marked aggression toward others" and "low autoaggression."
Arnetz et al. [17] 1985	10	Patients who reported that their psoriasis was aggravated by psychosocial factors	10 healthy subjects	Psychological stress induced by a) color-word conflict test and b) forced mental arithmetic	During stressor exposure, psoriatics reported a) significantly higher levels of stress and b) excreted more urinary adrenalin than controls.
Payne et al. [18] 1985	16	Outpatients with psoriasis who completed a retrospective postal questionnaire	16 patients with cutaneous neoplasms, warts, fungal infection	Life Events Inventory [19]	No significant difference in the number of life events during the previous 2 years between 2 groups

chopathology, 3) psychosocial problems associated with adaptation to a chronic and cosmetically disfiguring disease, and 4) biochemical and physiologic abnormalities in psoriasis that interface with psychiatry. In our experience at the Psychodermatology Clinic, all these four areas must be taken into consideration in the psychiatric evaluation and management of patients with psoriasis. This article also provides the clinician with some practical guidelines for the management of some of these problems.

Psychosocial "Stress" and Psoriasis

There is a relatively large body of literature implicating stressful life situations in precipitating and/or exacerbating psoriasis [2-7,11,15,17,20,22-27]. However, the nature of this association remains unclear. In a survey of over 4500 dermatologic patients, 2% of the patients had psoriasis, and emotional factors were reported to "trigger the onset of symptoms" in 62% of the psoriatics [24]. In a Danish study involving 245 children with psoriasis, "stress" was observed to be a provocative factor in 90% of patients [27]. Ingram [23] observed that psychosocial stressors exerted "the most potent influence" on psoriasis, whereas Baughman et al. [11] report that the effect of "stress" was "modest but significant." Both these conclusions are based upon uncontrolled observations. The studies using controls [5,7] report that psychosocial factors were important in the onset and/or exacerbation of symptoms in 39% [5] to 80% [7] of psoriatics versus 10% [5] to 50% [7] of controls, respectively. The controls consisted of patients with a range of non-dermatologic disorders [5] and patients with fungal infections of the skin [7]. On the other hand, based upon the results of a postal survey, Payne et al. [18] observed no difference in the number of life events between psoriatics and other dermatologic controls, concluding that "stress" did not play an important role in psoriasis. They asked their patients to note any events that occurred 12 months prior to the onset of psoriasis on a life events checklist adapted from the Life Events Inventory [19] without ascertaining the degree of "stress" associated with the event. In the studies where a significant relationship has been noted between the onset or exacerbation of psoriasis and life events, the subjects had been asked whether they had experienced "specific stress" 1 month before the onset of psoriasis [5], or whether they had a

"stressful" life event 6 months prior to the onset of psoriasis in a semistructured interview [7]. It appears that the important factor is the psychological distress or "stress" experienced by the patient rather than the life events per se. This is supported by a previous observation that the onset of psoriasis was clearly associated with a stressful life event only when the event was of "an acute catastrophic nature," for example, sudden death of a relative [4]. In such a case it is reasonable to assume that most people would experience significant psychological distress. Furthermore, in a recent study, Arnetz et al. [17] have demonstrated that psoriatics experienced "significantly higher strain levels" in comparison with healthy controls, when both were exposed to the same stress provoking situation. This was measured by scores on standard questionnaires and increased urinary adrenalin levels [17]. It is also interesting to note that psoriatics who reported "specific stress" 1 month before the onset of psoriasis [5] were also observed to have better prognosis three years later [28]. It is possible that a subgroup of psoriatics who are "stress reactors" experience a relatively benign clinical course, as their symptoms subside after the stress-provoking situation becomes less bothersome or subsides. Identification of such patients early in the course of treatment and incorporation of specific psychosocial interventions in the overall treatment regimen may improve the course of illness. Although the concept of "stress" is difficult to operationalize, treatments such as supportive psychotherapy and facilitation of grieving may prove to be important clinical interventions in some patients. It has been observed that children with psoriasis "react more easily to physical and psychological trauma than do adults with psoriasis" [27]. The authors recommend that treatment of children with psoriasis should involve a close parent-child-physician relationship and preferably be carried out in an outpatient setting to minimize the stress of hospitalization [27]. It is possible that in some children with psoriasis who have family pathology, a family assessment and family therapy may improve the course of illness.

The Association of Psoriasis and Psychopathology

Many investigators have attempted to delineate specific personality characteristics in psoriasis using questionnaires [4,6,7,10,11,13,16,29,30] and

clinical interviews [3]. This is a follow-up on the classic work of French and Alexander [31], who described neurodermatitis as one of the "holy seven" psychosomatic disorders, and the pioneering work of psychoanalytically oriented psychiatrists like Wittkower [32], who looked for relationships between personality structure, emotional conflict, and skin disease [32]. Although most have concluded that psoriatics do not have any characteristic personality traits [3,4,6,11,13], some have reported high measures of outward aggression [16], high depression [7,30], high anxiety [7], and high obsessiveness [29] and psychasthenia [10] scores on various psychologic questionnaires (Table 1). The clinical relevance of these findings is difficult to evaluate, as all the studies have involved a one-time cross-sectional evaluation of personality characteristics [3,4,6,7,10,11,13,16,29,30]. In one study where the ages of the patients ranged between 15 and 83 years and duration of psoriasis ranged between 5 and 40 years [10], the relation between duration of symptoms and personality characteristics was evaluated, and no consistent patterns emerged. Although some of the abnormal psychologic characteristics reported are most likely a reflection of the reaction to adaptation to a chronic cosmetically disfiguring illness, in some instances onset of psoriasis during developmentally critical periods may also affect the psychological growth of the individual [33]. To our knowledge, evaluations of psychiatric syndromes among psoriatics, employing standard diagnostic criteria, for example DSM-III, have not been reported.

Chaput et al. [34] have reported a higher prevalence of psoriasis among individuals who consumed more than 50 g of ethanol per day. Morse et al. [9] have recently reported an 18% prevalence of alcoholism among psoriatics versus a 2% prevalence among other dermatologic controls, using the criteria of the National Council for Alcoholism and the Self-Administered Alcohol Screening Test. They also found no relationship between alcoholism and the duration of psoriasis, suggesting perhaps that having psoriasis alone predisposes the patient to developing alcoholism. Previous reports, using less stringent diagnostic criteria for alcoholism [35-37] have refuted the association between alcoholism and psoriasis. Alcoholism among psoriatics may, for example, represent an underlying depressive illness, or may represent an attempt at self-medication for, e.g., anxiety, social phobias, or

sleep difficulties. This has important treatment implications and requires further evaluation.

Psychosocial Problems Encountered as a Result of Psoriasis

Body Image

Disfigurement occurring during adolescence has been reported to have a great impact on body image in later life [38,39]. This may be especially important in psoriasis, where 58% of patients develop psoriasis before age 30 years, 35% before age 20 years, and 10% before age 10 years [40]. Presence of lesions on exposed body parts [41] and increased severity [42] have both been reported to adversely affect the patient's body image.

Sexual Functioning

Psoriasis has been reported to effect the sexual functioning of the patient in 72% of cases [43]. When psoriasis is present in the more "emotionally charged" areas of the body, such as the genital area, sexual functioning is more affected [44]. Trauma to the genitals following sexual activity can result in new psoriatic lesions or an exacerbation of previous lesions as a result of the Koebner phenomenon, a feature of psoriasis where new psoriatic lesions have a tendency to appear at sites of trauma [45]. The fear of passing on psoriasis to the offspring, and myths about the possibility of contagion may also lead to significant sexual problems [3]. Marriage may be deferred [32,33] as a result of these concerns.

Others

Psoriasis has been associated with contagion, filth, and leprosy for centuries [43,44]. Wittkower and Russell [32] observed that psoriasis was often attributed to "venereal disease, dirt, and neglect," leading to a "considerable social effect." Presence of psoriasis in areas of high visibility such as face and hands can impair social and occupational functioning to a significant degree [3,32,33,43,44]. The patient may be discriminated against in public places such as beaches and hotels and in hairdressing salons. They frequently give up swimming, sunbathing, and activities that necessitate exposure of their skin to others [3,46]. Light-colored clothing may be chosen to cover the affected regions of the skin and camouflage the scales that

are shed [3,33,46]. Patients may develop a pervasive preoccupation with the anticipated negative response of others and, while dealing with these day-to-day problems, may experience a sense of "losing control" when faced with an unexpected exacerbation of their illness [33]. A poignant description of this has been given by Updike [47,48].

Medical treatments for psoriasis in day care centers versus inpatient hospitalization, for example, may interfere less with the daily functioning of the patient [49]. Education of the public, regulations ensuring that patients with psoriasis are not discriminated against in public facilities such as beaches and hotels [49,50], and group therapy aimed at dealing with the personal and social problems associated with psoriasis [33,51,52] are all important. The preliminary results of a recent large scale self-report survey, carried out by the National Psoriasis Foundation [53] reports that psoriasis did not significantly interfere with patients' social relationships. It is possible that this reflects an increasing awareness among the general population about the myth regarding psoriasis.

Physiological and Biochemical Correlates of Psoriasis that Interface with Psychiatry

Lithium and Psoriasis

Lithium may precipitate and frequently exacerbate psoriasis [54,55]. This effect is believed to be mediated by the effect of lithium on the two intracellular "second messenger" systems, cyclic adenosine monophosphate (cAMP) and the phosphoinositides.

Lithium has an inhibitory effect on adenylate cyclase, leading to decreased levels of cAMP [56,57]. Psoriasis has been associated with decreased responsiveness of the β -adrenergic receptors in the epidermal cells [58]. These β -adrenergic receptors are linked with the adenylate cyclase-cAMP system. Further inhibition of adenylate cyclase by lithium therefore can exacerbate psoriasis. Lithium also effects the phosphoinositide pathway by inhibiting the enzyme inositol monophosphatase, thus slowing the rate of resynthesis of phosphatidylinositol [59]. In psoriasis abnormalities have been found in the arachidonic acid transformation cascade [60]. This can be further exacerbated by the effect of lithium on the phosphoinositide pathway. An in-depth discus-

sion of the biochemical abnormalities in psoriasis is not within the scope of this article.

Major depressive disorder has been associated with reduction in lymphocytes β -adrenergic responsiveness, as measured by agonist-induced cAMP production [61]. The lymphocytes have been implicated as peripheral models of central β -adrenergic receptor function. This possible defect in β -adrenergic receptor function in both psoriasis and depressive illness, along with some reports of a possibly increased prevalence of depressive symptoms [7,33] and alcoholism [9,34] among psoriatics, suggests that the association between psoriasis and affective disorders requires further investigation.

Neuropeptides and Psoriasis

Farber et al. [62] have proposed that substance P, a neuropeptide involved in itch and pain perception and the modulation of inflammation, may be involved in psoriasis, especially in cases where the lesions follow a symmetric dermatomal distribution. Substance P has been demonstrated in intraepidermal nerve endings and there have been reports of resolution of psoriasis with cutaneous nerve resection [63]. The authors further discuss that since the epidermis and the nervous system are developmentally both derived from the embryologic ectoderm, neural factors may affect epidermal cells [62].

Cutaneous Blood Flow

Psoriasis has been associated with increased cutaneous blood flow [64-66], and improvement in psoriasis has been associated with a decrease in the cutaneous blood flow [66-68]. This may be due to the change in morphology of the capillaries of psoriatic skin [64]. More than three decades ago Graham [69] had observed that cutaneous blood flow, as measured by skin temperature and the reactive hyperemia threshold, increased significantly in the patient with psoriasis when the topic of discussion involved a disturbing life situation. In accordance with the most popular theories then in vogue, this was attributed to an "attitude" that these patients might have had in common [69].

Several studies [70,71] have reported that temperature biofeedback training was associated with a significant decrease in the severity of psoriasis. The efficacy of this method appears to be related

to the more generalized relaxation response initiated by the biofeedback [70,71], rather than decreased cutaneous blood flow. The role of psychophysiological factors affecting cutaneous blood flow, in the exacerbation of psoriasis requires further evaluation.

Some Practical Guidelines for Psychosocial Intervention in Psoriasis

The psychiatrist is typically called upon a) to manage psychiatric pathology such as affective disorder in the psoriatic patient and b) for a psychopharmacologic consultation, when psoriasis is precipitated or exacerbated in a patient being maintained on lithium.

The patient must be evaluated within a developmental context, and the social, occupational, and close interpersonal functioning of the patient must be assessed, along with the psychiatric pathology including suicide risk. The assessment of the day-to-day difficulties faced by the patient is especially important, as in the subgroup of "stress reactors" having to cope with this may alone exacerbate the skin condition. Psychologic interventions aimed at helping the patient deal with these "stresses" may be helpful. Several studies report the efficacy of hypnosis-induced relaxation [72-74] and psychotherapy [75,76] as a helpful adjunct in the treatment of psoriasis. In our experience, brief hospitalization aimed at removing the patient from a stressful environment may lead to significant improvement of psoriasis in some cases.

Potent topical steroids frequently used to treat psoriasis may be systemically absorbed and alter the mental state of the patient [30], and may depress adrenocortical function [77], thus affecting diagnostic procedures such as the dexamethasone suppression test.

Psoriasis precipitated or exacerbated by lithium is typically fairly resistant to conventional anti-psoriatic treatment [78]. This may occur within the first few months of treatment and usually occurs within the first few years that the patient is on lithium [79,80]. Usually there is no family history of psoriasis [78]. When the psoriasis becomes widespread and intractable, lithium has to be discontinued [79] and the psoriasiform rash usually remits within a few months [78], or the rash reverts back to its premorbid state [78]. Having to discontinue lithium can typically pose a major management problem for the psychiatrist. For the bipolar patient

discontinuing lithium, alternative treatments such as carbamazepine may be necessary, and the patient may need antipsychotic or antidepressant medications for stabilization of the mood disorder. The phenothiazine antipsychotics [81,82] and some antidepressants [83-85] can cause a photosensitive skin rash when a patient is exposed to ultraviolet A (UVA) light. Since UVA with psoralens (PUVA) is frequently used as a treatment for psoriasis, this side effect may also interfere with the management of psoriasis. Management of patients whose mood disorder does not stabilize without lithium involves an ongoing evaluation of the risk-to-benefit ratio associated with reintroduction of lithium. In some cases, lithium may have to be restarted for a limited period at various times.

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Direct reprint requests to:

M.A. Gupta, M.D.
 Department of Psychiatry
 University of Michigan Hospitals
 1500 E. Medical Center Drive
 Box 0704
 Ann Arbor, MI 48109-0704