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Psychological disorders in patients with lichen simplex chronicus: A comparative study with normal population

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ABSTRACT

Introduction: Lichen simplex chronicus (LSC) is an eczematous skin disease characterized by single or a few thickened and 'lichenified' skin plaques, with very disturbing itching. The role of psychological factors and transient relief of pruritus after violent scratching seems to be of great importance in development and perpetuation of its course. On the other hand, the chronic nuisance itching may lead to burdensome psychological distress and impaired quality of life.

Aim: This study sought to elucidate more aspects of this interplay.

Material and methods: 40 patients with LSC (diagnosed clinically) and 40 healthy controls (selected between attendants of the patients with no skin problem) were enrolled in this study. Hamilton questionnaire and symptom checklist 90-revised (SCL-90 R) were filled by a psychologist for all cases. Demographic characteristics, localization of the skin lesions, personal and family history of psychiatric disorders (if existent) were recorded.

Results and discussion: Mean scores of SCL-90-R in somatization, interpersonal sensitivity, depression, anxiety, aggression, and phobia items were significantly higher in patient group than control group. Regarding Hamilton depression test, the mean scores were higher in patient group, but the difference was not statically significant.

Conclusions: Patients with LSC are subject to ample psychiatric morbidities. Close collaboration of dermatologist and psychiatrist is essential in its successful control.

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1. Introduction

Lichen simplex chronicus (LSC, also known as circumscribed neurodermatitis) is a chronic dermatitis characterized clinically as heavily lichenified and pruritic plaques. The term 'simplex' usually implies that at the time of diagnosis no other overt skin disorder that justifies intense itching is evident, otherwise 'secondary lichenification' would be a better descriptive diagnosis.[1] Nonetheless, it's been shown that not all the patients have the ability to lichenify, and certain predisposing factors determine the clinical response to an itching trigger.[2] Dermatologic conditions like xerosis, with or without atopy, stasis dermatitis, and non-dermatologic conditions like anxiety, obsessive–compulsive disorder, and pruritus due to systemic disease has been named as predisposing factors.[3–5] These factors predispose the patient to initialize and perpetuate a cycle of itch-scratch which leads to the clinical lesion.[6]

The importance of psychological factors in triggering, development and persistence of many skin diseases cannot be overemphasized.[4,7,8] LSC is one of the most common prototypes of psychocutaneous disorders, its behavioral and psychological aspects and its impact on quality of life of the patient has been widely reviewed in different populations.[9–11] There are reports that associate it with affective disorders, and consider serotonin as the principal linking mediator, whose metabolism is changed in the skin of LSC patients.[12] Also, another controlled study supports higher rates of depression among LSC patients in different populations.[13] To the best of our knowledge no similar study has been recently done to evaluate psychologic profile of the patients with LSC.

2. Material and methods

During 2010, this cross sectional study was performed on 40 LSC patients presenting to dermatology clinic in Imam Reza Hospital, Mashhad, Iran; and 40 healthy control cases (selected from patient's attendants with no skin problem) which were matching regarding sex, age and educational level. The study was approved ethically by ethic's committee of ... Mashhad University of Medical Science.

Inclusion criteria were: (1) diagnosis of LSC, based on clinical diagnosis and history; (2) informed consent to take part in the study; (3) cooperation in filling for the questionnaires.

Exclusion criteria were: (1) simultaneous presence of other skin diseases; (2) patient under treatment with psychotropic drugs.

After recording demographic information, patients were handed a Persian translation of the revised version of the Symptom Check List-90 (SCL-90-R). SCL-90-R is a 90-item self-report clinical rating scale measure of current psychopathology which is widely employed in psychiatric and medical populations with well-established reliability and validity. SCL-90-R evaluates psychiatric profile the patients in 9 aspects: somatization, obsession and compulsion, sensitivity to interpersonal relationship, depression, anxiety, hostility, phobic anxiety, paranoid ideation and psycoticism.[14,15] This scale has been translated to Persian, and found to be valid and reliable among Iranian adult population.[16] Each question in this checklist can be scored between 0 and 4. The sum score can be considered a representation of general mental health status. There is no cut of point for normal in our population. So we compared mean scores between the two groups and also considered mean scores in each sub-scale separately. Patients were asked to answer the questions by their selves (each in a single session), but if they asked for help a psychologist was available.

Then the patients were addressed to a psychologist who interviewed and applied Hamilton depression rating scale (HAM-D) to them. HAM-D is a 17 item clinician-rated clinical evaluation scale to rate the severity of depression that has been used extensively in clinical research and practice.[17]

Also, a 24-item variant of HAM-D has been prepared which we used in this study. Each item can be scored between 0 and 4, and the final scores are possible between 0 and 96. No cut of point has been defined in this scale, so we made a comparison between mean scores of the two groups.

The data were analyzed by SPSS 11.5, using t-test, χ^2-test and Fisher's exact test. P values of less than 0.05 were considered as significant.

3. Results

This study included 40 patients with diagnosed LSC – 20 (50.0%) male and 20 (50.0%) female – and 40 control cases – 22 (52.5%) male and 18 (47.7%) female. Age range was between 12 and 60 years, mean age in patients group was 33.5 ± 11.8 years old and in control group 34.03 ± 8.18 old ($P = 0.81$). Other demographic characteristic (marital state, education) of the patients and control group are summarized in Table 1.

Among LSC group, 10 (25%) had personal and 11 (27.5%) had family history of psychiatric illness.

Mean HAM-D score was 9.55 ± 9.06 (range: 0–40) in LSC group and 6.55 ± 8.66 (range: 0–32) in control group, but the difference was not statistically significant ($t = 1.51$, $P = 0.13$).

Scores of SCL-90-R in LSC and control group are summarized in Table 2.

In subscales of somatization, interpersonal sensitivity, anxiety hostility and phobic anxiety scores in LSC group were significantly higher that control. Whereas in subscales of obsessive–compulsive disorder, paranoid ideation and psyciticism, although the mean scores were higher in LSC group, the difference was not statistically significant.

Regarding sex of the patients, scores of HAM-D test and all subscales of SCL-90-R were higher in females, but the difference was significant in HAM-D scores and subscales of interpersonal sensitivity, depression, and psycoticism.

Moreover, comparison of the scores in females (both control and patient groups) showed that female patients had significantly higher scores in items of interpersonal sensitivity, depression, anxiety, hostility and phobic anxiety. Comparison of scores between single and married cases did not show significant difference in the whole group and within the LSC group.

Regarding personal or family history of psychiatric illness, although there was not a significant difference in any items of the scales between the LSC and control groups, within the LSC

Table 1 – Demographic characteristics of LSC patients and control group.

		Patients, *n* (%)	Controls, *n* (%)	*P*
Marital state	Single	18(45.0%)	22(55.0%)	0.37
	Married	22(55.0%)	18(45.0%)	0.37
Education	Illiterate	0(0.0%)	4(10.0%)	P = 0.10
	Elementary	7(20.0%)	4(10.0%)	Likelihood ratio 7.69
	Early high school	4(11.4%)	4(10.0%)	
	High school diploma	15(42.9%)	13(32.5%)	
	Higher academic education	9(25.7%)	15(37.5%)	

group mean scores of Hamilton and psycoticism subscale of SCL-90-R were significantly higher in those with the family or personal history.

4. Discussion

Although the intricate interrelation of 'the psych' and 'the skin' cannot be overemphasized, the exact components of this relationship is not easy to recognize, and might be varied in different patient populations.[18]

LSC, as a prototypical skin disorder in this field has long been believed to bear important psychological associations, and different studies have tried to enlighten more aspects of them. Konuk et al. evaluated depression and dissociative experiences in patients with LSC. They applied SCL-90 and HAM-D test and also dissociative experiences scale (DES), a 28-item, self-administered questionnaire for screening of dissociative disorders to a group of Turkish patients with LSC and controls. Scores of the all tests were significantly higher in LSC group.[19] Radmanesh et al. evaluated psychological status in 65 patients with psychogenic pruritus (including LSC, prurigo nodularis and neurotic excoriation) by a semi-structured interview and concluded that all of them had affective disorders including depressions, anxieties, and mixed anxiety and depressive disorders. Some patients also had associated personality disorders, but no thought disorder was identified.[20] Liao et al. conducted a cohort study in Taiwan among patients with anxiety disorder and concluded that people with anxiety had a 1.41-fold greater risk of developing lichenification compared with the control group.[3] Martin-Brufau et al. assessed personality differences between patients with LSC and normal population by administering the Millon index of personality styles (MIPS) and concluded that LSC patients had greater tendency to pain-avoidance, greater dependency on other peoples' desires, and were more conforming and dutiful compared to the control group.[21] To the best of our knowledge, no other similar study has been conducted among patients with LSC.

Considering LSC a heterogeneous disease with different predisposing traits and trigger factors, one of the wonderful findings is that stimulation of type C sensory nerve fibers leads to the perception of itching in patients predisposed to LSC, whereas in other individuals light pain is more often perceived. Since this difference in perception is most probably because of a central processing, this may be proposed as one potential portal of psychological factors to contribute in the pathogenesis of LSC.[22–24]

Chronic pruritus of unknown etiology has been considered as a 'somatoform' disorder in some clinical situations.[25] In this

Table 2 – Subscales of SCL-90-R in LSC and control group.

Subscale	Group	Mean score ± SD	*t*	*P*
Somatization	LSC	57.95 ± 10.21	2.41	0.018
	Control	51.88 ± 12.17		
Obsessive–compulsive	LSC	47.03 ± 12.94	0.41	0.67
	Control	45.83 ± 12.90		
Interpersonal sensitivity	LSC	49.10 ± 14.46	2.59	0.011
	Control	41.65 ± 11.03		
Depression	LSC	44.75 ± 13.30	3.07	0.003
	Control	36.10 ± 12.02		
Anxiety	LSC	47.60 ± 13.88	3.07	0.003
	Control	38.75 ± 11.77		
Hostility	LSC	51.35 ± 13.27	3.27	<0.001
	Control	41.40 ± 10.43		
Phobic anxiety	LSC	48.48 ± 12.30	2.49	0.015
	Control	42.68 ± 8.10		
Paranoid ideation	LSC	50.38 ± 12.56	1.01	0.31
	Control	47.53 ± 12.52		
Psycoticism	LSC	41.90 ± 12.98	1.96	1.96
	Control	37.00 ± 8.98		

regard, concordance of other somatic symptoms, as was noted in LSC patients in the current study, is not unexpected. In our patients interpersonal relationship deteriorations and hostility can occur due to underlying psychiatric morbidity and/or stigmatization and nuisance of the skin lesion. Depression and anxiety are very common psychiatric afflictions which can be considered as predisposing, perpetuating or consequence of the skin disease. Higher phobic anxiety scores in these patients might be interpreted as an accompanying phobia from a certain symptom or disease which inspires a persistent attention or vigilance toward a specific anatomic location in the body, triggering or perpetuating pruritus and leading to an itch-scratch cycle.

Scores of psycoticism and paranoid ideation were not significantly different between the LSC and control group, which is not far from expectation, since these items evaluate aspects of reality testing disturbances which are not commonly affected in these patients. On the other hand, absence of significant difference in scores of obsessive–compulsive symptoms in the two groups was unexpected at the first glance, as in many LSC cases the intense desire to scratching and the temporary satisfaction that follows can be considered a typical compulsive behavior.

5. Conclusions

These results can be interpreted as a more canalized obsession and/or compulsion toward the scratched area and/or the act of scratching, rather than a more generalized obsession or compulsion which is evaluated in SCL-90-R. Still, closer psychiatric evaluations including structured interview may help us understand and define psychiatric profile in LSC patients.

Conflict of interest

None declared.

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