

A CONTROLLED STUDY OF PSYCHOSOCIAL FACTORS IN NEURODERMATITIS

K. S. AYYAR¹

V. N. BAGADIA²

SUMMARY

A controlled comparison of 25 cases of neurodermatitis with 25 cases of scabies indicated the heavy loading of psychosocial pathology in the neurodermatitis group. Implications of the childhood anamnesis, and findings of different psychometric tests are discussed.

Introduction

Neurodermatitis refers to a psychocutaneous syndrome characterized by circular, oval or irregularly angulated patches of intensely pruritic skin which is excessively furrowed and thickened i.e., lichenified (Rook et al 1972). Several authors have reported the importance of psychological factors in this disease (Allen 1967, Pillsbury et al 1963). The greatest impetus for the search of psychic factors in neurodermatitis probably stems from the therapeutic need i.e., the refractoriness of this condition to routine physical treatment. The present study was therefore undertaken to clarify the contribution of some of the psychosocial factors in the pathogenesis of neurodermatitis.

Material and Methods

Twenty five successive cases of neurodermatitis seen by a single dermatologist on two particular days of the week in the dermatology out-patient department of the K. E. M. Hospital, Bombay constituted the index group. Twenty five cases of scabies were selected from the same dermatology out-patient clinic by matching for age and sex with the index group. The index and control groups were also well matched with respect to income, education, social status and ethnicity. Patients suffering from

any obvious psychosomatic illness in the past/present were excluded from the control group.

Each patient participated in a comprehensive psychiatric interview lasting for about 45 minutes. The Hamilton Anxiety Rating Scale, the Hamilton Psychiatric Rating Scale for Depression, a psychiatric symptom checklist (SCL-90) and the Rorschach Ink-Blot Test were administered to each patient immediately after the first interview or at a subsequent meeting. A proforma covering the different aspects in the predisposition, precipitation and perpetuation of neurodermatitis was filled in, after each interview. The data thus obtained was tabulated and subjected to statistical analysis. The chi square test, the 't' test, the Kolmogorov Smernov two sample test, and the Fisher's exact probability test were applied at appropriate places to determine the statistical significance.

Results and Discussion

The neurodermatitis and the scabies groups were well matched and the important findings of this study were as follows.

Parental loss and parental personality.

9(36%) of the neurodermatitis patients had lost their father as compared to 2(8%)

1. Hon. Asst. Psychiatrist, H.B.M.G. Hospital, Borivli, Bombay 400 103.

2. Emeritus, Prof. of Psychiatry, Seth G. S. Medical College & K. E. M. Hospital, Parel, Bombay 400 012.

Table 1
Parental Personality Traits (Anamnestic data)

	Paternal		Statistical significance	Maternal		Statistical significance
	Index n = 25	Control n = 25		Index n = 25	Control n = 25	
Aggressive	4	2	n.s.	10	1	p < .01
Obsessive	0	2	n.s.	5	3	n.s.
Anxious	0	0	n.s.	1	1	n.s.
Psychopathic	4	-	p = .055	0	0	n.s.
Schizoid	2	-	n.s.	0	0	-
Unclassifiable	15	23	p < .01	9	20	p < .01

Early Home life (Anamnestic data)

	Index group n = 25	Control group n = 25	Statistical significance
Psychiatrically broken home	6	1	p = .049
Physically broken home	6	5	n.s.
Insecure home life	10	2	p < .01
Unsatisfactory childhood	10	3	p < .05

of control group and 9(36%) were separated from the mother as against 4(16%) of the scabies group. Three neurodermatitis patients had lost both parents before the age of 18 years as against none in the control group. No statistically significant differences were found between the two groups with reference to parental loss.

Table 1 shows the patients' reports about their early childhood experiences. Neurodermatitis patients reported more abnormal traits of psychopathy in fathers and aggression in mothers and on the whole reported more pathological personality traits in both parents. They also reported a psychiatrically broken home and an insecure and unsatisfactory home life, to a significantly greater extent.

The unsatisfactory early childhood experiences of neurodermatitis patients have been stressed by Miller (1948), Marmor et al (1958) and others. Interview and psychometric assessment of parents of index and control groups will be necessary in future studies to substantiate this data. Similarly a repeat interview with the patient after

complete/partial treatment of his skin lesions may elicit a less critical impression about his early childhood experiences and this needs to be done in subsequent studies.

Neurotic traits since childhood

12 of the patients in the index group reported habitual picking, kneading, rubbing and scratching of the skin since childhood compared to one in the control group (p < .001). This could be due to an unusually itchy skin as postulated by some workers. This habit could also be due to anxiety being conditioned by the displacement phenomenon. This habit of manipulating the skin may be interpreted as erotization of the skin. It also serves as the basis for the conditioning theory of causation of the secondary skin changes and for the behaviour therapeutic treatment of neurodermatitis.

Clinical assessment of pre-morbid personality (Table 2)

There is a predominance of anxious and obsessive personalities in the neurodermatitis group to a statistically significant

Table 2
Patient's Personality: Clinical Assessment.

Personality	Index group	Control group	Statistical significance
Anxious	11	4	$p < .01$
Obsessive	6	1	$P = .049$
Hysterical	2	-	n.s.
Psychopathic	1	2	n.s.
Aggressive	2	4	n.s.
Unclassifiable	3	14	$p < .01$

degree. The total number of abnormal personalities in the index group was 88%. It is not the anxious personality alone which has contributed to the abnormal personalities. The obsessive, hysterical, psychopathic and aggressive personalities taken as a group also varied significantly from the control group ($p < .01$). Overt hostility in the form of aggressive behaviour was more in the control group. This runs contrary to the high incidence of hostility described by Engel and Wittkower (1975), Levy (1952), but is in agreement with White, Jones and Ingham (1956) who did not find hostility to be significantly higher in the neurodermatitis group.

The anxious and the obsessive are more likely to be conscious of minor skin irritations and more likely to complain of unpleasant body sensations.

The Rorschach Ink-Blot test could be administered only to the index group of 25 cases. Sex responses in 20 (80%), low F + % in 13 (52%), anxiety features in 12 (48%) and animal detail (Ad) responses in 19 (76%) were the salient features on Rorschach. The total absence of hostile responses is in keeping with the observations of White et al. (1956).

The neurodermatitis patients scored significantly higher than the control group on the Hamilton's Anxiety Rating Scale and on the Hamilton's Psychiatric Rating Scale for Depression.

Table 3
Scores on Hamilton's Anxiety Rating Scale and Hamilton's Psychiatric Rating Scale for Depression

	HARS*		HDRS*	
	Index	Control	Index	Control
Mean Score	16.48	5.52	14.32	4.76
Standard Deviation	± 5.25	± 3.18	± 3.85	± 3.33
	$p < .001$		$p < .001$	

On administering a comprehensive check-list of psychiatric symptoms, (SCL-90) the index group reported 143 symptoms whereas the control group reported only 38 symptoms. Majority of the symptoms were related to anxiety, depression and sexual problems in the neurodermatitis group. Kenyon (1962) reported that 15% of a randomly selected population from an outpatient skin clinic had psychiatric problems.

Allerhand, Gough and Grais (1950) found restlessness, impatience and irritability to be more in neurodermatitis, these being symptoms of anxiety. The importance of anxiety leading to conditioned scratch responses has been stressed by Whitlock (1976). The role of the recurrent nature of the illness and its chronicity in producing a depressive symptomatology must be borne in mind. The attitude of mankind which views skin disease as a stigma also merits consideration as a factor enhancing the depressive picture.

Current Life stresses: (Table 4)

The index group reported more occupational problems ($p < .05$) and more marital disharmony and sexual problems ($p < .01$). The table gives an indication of the extent of the sexual problems encountered in the study. Alexander found inhibited sexual excitement to be an important psychodynamic factor in different types of pruritis and he called 'scratching' a masturbatory equivalent.

Table 4
Comparison of Sexual Problems in the Index and Control Groups

	Index group	Control group
Guilt regarding masturbation	10	3
Prenatal inter-course	5	1
History of prostitution	8	4
History of contacting sexually transmitted diseases	6	2
Premature ejaculation	2	-
Dyspareunia	4	-
Unsatisfactory sex life	6	1
Disinterest in sex	5	2

It emerges from this study that the neurodermatitis patient reports having been emotionally deprived in childhood; reports having a mother with abnormal personality traits; is likely to have developed the habit of skin manipulation since a young age; is likely to have an anxious or obsessive disposition; is likely to have several symptoms of anxiety and depression. Based upon these observations, indepth psychodynamic studies and incorporation of psychiatric aspects in the treatment seems to be strongly indicated.

References

- ALLEN, A. C. (1967): *The Skin: A Clinicopathological treatise* 2nd Edition. Grune & Stratton, New York.
- ALLERHAND, M. E., GOUGH, H. G. & GRAIS, M. L. (1950), Personality factors in neurodermatitis. *Psychosomatic Medicine* 12:386-393.
- CLEVELAND, S. E. & FISHER, S. (1956), Psychological factors in neurodermatitis. *Psychosomatic Medicine*, 18, 209-220.
- ENGELS, D. W. & WITTKOWER, E. D. (1975). In comprehensive text-book of Psychiatry II, Ed. Freedman, A. M., Kaplan H. I. and Sadock B. J. Williams & Wilkins Co., Baltimore.
- KENYON, F. E. (1962), A Psychiatric survey of a random sample of out-patients attending a dermatological hospital, *Journal of Psychosomatic Research*, 6: 129-135.
- LEVY, R. J. (1952), The Rorschach pattern in neurodermatitis. *Psychosomatic Medicine*, 14: 41-49.
- MACALPINE, I. (1954), A Critical evaluation of psychosomatic medicine in relation to dermatology. In *Modern Trends in Dermatology* 2nd series. Ed. Mackenna R. M. B. Butter Worths, London (1954).
- MARMOR, J., ASHLEY, M., TABACHNIK, N., STARKAN, M. & MACDONALD, F. (1958), Mother-child relationship is development of neurodermatitis. *Year-Book of Dermatology and Syphilology*, Ed. Baer R. L. and Written H. V. The Year-Book Publishers, Chicago 1958.
- MILLER, M. L. (1948), Psychodynamic mechanisms in a case of neurodermatitis. *Psychosomatic Medicine*, 10:309-315.
- PILLSBURY, D. M., PHELLEY, W. B. & KLIGMAN A. M. (1963): "Neurodermatitis" in dermatology. W. B. Saunders, Philadelphia 1963.
- ROOK, A. J., WILKINSON, D. J., EBLING, J. G. (1972), *Text-book of Dermatology*. 2nd edition. Oxford, Black-well 1972.
- WHITE, J. M., JONES, A. M. & INGHAM, J. G. (1956), A Rorschach study of Neurodermatoses, *Journal of Psychosomatic Research* 1:84-93.
- WHITELOCK, F. A. (1976), Psychophysiological aspects of skin disease. W. B. Saunders & Co., Philadelphia.