only satisfactory explanation of this happening (which was anticipated, since it has been seen before in lesser degree in years with influenza epidemics and cold winters) is that the rate of dying of patients already notified was temporarily enhanced by the hard conditions of 1940-1. By this shortening of the normal survival period at least 2,200 notified patients apparently died of the disease during 1940-1 who under normal conditions would have not died of it until 1942-3. Probably the number was several hundreds greater than this, for tuberculosis deaths in the December quarter of 1943 were considerably increased by the influenza epidemic of November-December, thereby neutralizing part of the deficiency which would otherwise have been apparent for 1943 as a whole. That a considerable temporary increase in the short-term fatality rate did occur in 1940-1 and that it was followed by a compensating fall below the ordinary level in 1942-3 is shown by the last column of Table I. From 0.51 in 1936-9 the ratio increased to 0.59 in 1940 and 0.56 in 1941, falling to 0.48 in 1942 and 0.47 in 1943.

In the work on Middlesex deaths by one of us (Lewis-Faning, 1943) it was found that in 1940-1 1,610 deaths from respiratory tuberculosis of notified persons were distributed according to the interval since notification as follows: 701 under 1 year, 665 after 1 but less than 5 years, and 244 after 5 or more years. If all the deaths of notified persons in England and Wales during 1940-1 were similarly distributed the composition of the excess of 4,210 deaths according to interval since notification must have been as shown below.

	Under 1 Year	1-4 Years	5 Years or more	All Durations
Actual deaths 1940-1 in Middlesex proportions	18,430	17,480	6,420	42,330
Expected deaths (Table IV)	16,440	16,830	4,850	38,120
Excess over expectation	1,990	650	1,570	4,210

These figures are quite consistent with the supposition that some 2,500 patients died in 1940-1 instead of in 1942-3. Table IV shows that there must have been at least 10,000 patients notified less than a year living in 1940-1 who were expected to die in 1942-3, and 1,990 of them might well have died earlier; similarly there must have been at least 7,000 patients notified 1 to 4 years living in the first period who were expected to die in the second, and 650 of them might have died earlier as a result of the severities of 1940-1. This would more than account for the transfer of 2,200 deaths; and the rest of the increase could be explained by breakdown of patients in whom the disease had become quiescent and who in normal conditions would not have died of the disease at all, or not in this country. It is not to be supposed that in the disturbances of 1940-1 the Middlesex proportions were exactly representative of those in the country as a whole and that what happened was precisely as suggested above. The purpose of quoting the Middlesex 1940-1 data is mainly to correct an impression given by the paper in which they were analysed that they seemed inconsistent with the view that any considerable part of the increase in tuberculosis deaths in the early part of the war was attributable to shortening of life of patients who already had the disease. One would hesitate to proceed further than Table III in applying the method of analysis used here to those data, owing to the disturbed state of residence of the population of that county in 1940-1. But this more comprehensive analysis, based as it is on data for the whole country (where the objection does not apply) suggests that about 2,500 of the deaths in 1940-1, or three-quarters of the excess over the 1938-9 total, were accounted for by shortened duration.

Summary

In the period 1923-39, despite the rapid fall in the numbers of notifications of and deaths from respiratory tuberculosis, the average expectation, for a person just notified, of eventually dying of the disease remained remarkably constant at approximately one-half in England and Wales as a whole.

Immediately before the war the average expectation of dying within a year of notification was about 22%, and within 5 years about 44%. For Middlesex County the curve showing the rate of dying after notification was similar to that for the country as a whole, but at a lower level—43½% eventually dying of the disease

instead of 50%. This lower fatality corresponds with the lower standardized death rates in the county as found for 1931-5.

Had the incidence of new cases continued to decline as in the pre-war period, instead of increasing, some 6,000 fewer deaths would have occurred during 1940-3 under normal conditions.

Owing to a temporary rise in short-term fatality during the severe conditions of 1940-1 some 2,500 notified patients probably died in those years instead of in 1942-3. Another 1,500 notified persons and about 1,000 unnotified persons who in normal circumstances would not have died of the disease at all in this country must have died of respiratory tuberculosis during 1940-1.

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THE RELATION OF DERMATOLOGY TO PSYCHIATRY*

BY

F. F. HELLIER, M.D., F.R.C.P.

Lieut.-Col., R.A.M.C.; Command Dermatologist

The expansion of psychiatry in the Army has provided opportunities for liaison with other branches of medicine such as have never been available before, and, under the controlled and standardized conditions of Army life, the importance of the personality factor in all diseases is being more and more appreciated. It was therefore with great pleasure that I accepted an invitation to present the dermatologist's point of view to a gathering of psychiatrists; nor is this inappropriate, as, embryologically speaking at least, psychiatry is an offshoot of dermatology, and a fundamental association persists into adult life.

The Hypersensitive Subject

L. Brocq divided skin conditions into two groups—skin diseases proper and skin reactions. The former usually have a specific aetiological agent which produces a characteristic lesion in anyone affected. Thus the *Spirochaeta pallida* causes the same kind of chancre in any uninfected person, and prolonged exposure to spinning-oil a classical epithelioma. When these lesions are treated adequately the condition is finished with and there is no increased likelihood of a fresh attack. In contradistinction to this, a skin "reaction" depends for its characteristic type on the make-up of the patient and not on the specificity of the external factor. Whealing may be produced in one patient by tinned salmon, in others by getting warm or cold or rubbing the skin, and in another because he is upset psychologically, but most people do not develop wheals at all under normal conditions. Here the personality of the patient is all-important; only if he is made in a special way will he produce a wheal with his characteristic stimulus, otherwise it will have no effect at all. A reaction may be simple, like flushing, or more complicated, like eczema or psoriasis, but all behave in essentially the same way. Thus one patient may develop psoriasis whenever he has a sore throat; another if his skin is injured by a scratch; another whenever he undergoes a period of stress, as instanced by one man I recall whose rash recurred every time he took a medical examination. The eczema patient similarly reacts badly to adverse circumstances. Soon after quitting the protection of the womb and meeting the troubles of the world for the first time, he develops infantile eczema. He may adjust himself to his environment, but the rash is likely to return at puberty, at the menopause, and in old age, or at any other time when things go against him. Just as some people react to stress with indigestion, headache, or asthma, so this patient reacts with an attack of eczema and his fellow patient with psoriasis or urticaria; they do so because they are made that way. It is an old gibe that "it is nice to be a dermatologist, because your patients never die, they never get you up in the night, and they never get better." This latter is only too true in many instances, because you can't cure a man of his own personality.

* Based on a talk given to a meeting of psychiatrists.

Eczema

Are there any indications of such an abnormal constitution apart from the appearance of a rash? Undoubtedly there are, and they are well illustrated in patients with eczema. The hypersensitivity of the skin of eczema patients is only one aspect of a generally hypersensitive make-up. Such patients are above the average intelligence, but admit to being highly strung, over-conscientious, and worriers; they possess terrific drive, and are very active, both mentally and physically. They have a tremulous tongue and bright eyes almost suggesting exophthalmos in marked cases, they move quickly, and when asked to undress do so with great speed, only hampered by the marked tremor of their hands. They have been well described as 100-horse-power engines in 60-horse-power bodies. Even in infancy the picture is typical. The child is obviously intelligent, full of unbounded energy, but rather irritable; a familiar trio in the dermatologist's room is the worn-out, over-anxious mother, the worried short-of-sleep father who is continuously retrieving his restless son and telling him not to scratch, and the child who is the picture of health apart from his scratched face and his resentment at being interfered with. The following description by a psychologist portrays just such a child, though actually it is describing the child with asthma:

"He has an intelligence much above the average; he is irritable and aggressive, quick to respond; he is over-anxious, insecure, un-selfconfident. As a result of his insecurity he often appears at first sight repressed and submissive, but even then there is generally an air of subdued tension about him, and, given the opportunity for freer and more confident self-expression, he becomes aggressive and domineering. He is, in fact, the type of child who makes more demands upon his parents, particularly his mother, than almost any other. He is an intelligent individual who twists her round his finger, aggressive enough to get his own way and anxious enough to demand her continual attention." (Rogerson, 1943.)

The Problem of Treatment

The recognition of the type of patient is easy, but how can one help him? The application of ointments and x rays will literally only touch the surface of the condition; if we are to obtain permanent benefit we must tackle the patient as a whole and consider his personality and environment. The problem may be divided into two parts: the discovery of the immediate factor which caused the present attack, and the wider aspect of the adjustment of the patient's attitude to life and his skin condition. The former is often surprisingly simple; the patient is only too willing to pour forth his troubles to a sympathetic listener, and, helped by a few judicious questions, soon reveals marital or financial worries, a period of strain, or some emotional shock which seems to bear a direct relation to the current attack and which the patient is ready to accept as such. The solution to these problems is often possible, using common sense and a little persuasion. More difficult is the problem of altering the patient's outlook and mode of existence so that he may be protected from stresses and strains which his hypersensitive make-up cannot support. One aims at giving the patient insight into his condition, reassuring him that it can be controlled if he goes about it the right way, and modifying his environment. In many cases this common-sense psychology will succeed; but in others one is faced with a severe anxiety state, and it is sensed that there are hidden stresses in the patient's mind that one has failed to expose. One is often reduced to giving these patients bromide—a confession of failure—and it is in such cases that one turns for help to the trained psychiatrist.

I would here refer to an experiment in rehabilitation which the Army has started and which I have been privileged to supervise. An auxiliary hospital has been set aside for chronic skin cases which have failed to stand up to Army life. The object of the scheme is twofold: first, the men have a set routine of work of at least five hours a day doing domestic work, workshop jobs, gardening, harvesting, etc. This is to keep their minds occupied so that they do not sit and brood all day over their skins. Secondly, they do fairly strenuous work, including P.T., which keeps them physically fit and gives them confidence that their skin will stand up to exercise, even though it may make them sweat; and thus the man returns to his unit unafraid of the consequence, and the shock of the transition

from the shielded atmosphere of the hospital to active duties is graduated. I err on the side of risk rather than caution, and let eczema patients bathe and seborrhoeics sweat; for I would rather have a man break down in hospital, if he is going to do so, than when he has got back to his unit. The experiment is only in its infancy, but so far the results seem to justify it.

While discussing eczema I must mention one important symptom—itching. If anyone doubts that itching can be produced purely by psychological factors, he has only to observe a class of students to whom one has demonstrated a head full of lice. It is significant that the word "itch" also means "desire," and that a patient will often say that he has had a "lovely scratch"; such phrases derive from the pleasurable element in scratching, which may weigh heavily against the patient's expressed desire to get better. In severe cases of itching the patient may work himself into a fury of scratching, utterly uncontrollable and increasing until finally he relaxes into an exhausted languor, the whole process clearly justifying the description of an orgasm of scratching, with all that that implies psychologically. Certain sites are peculiarly prone to itch, especially the anus and vulva. Part of the reason for this is that these areas are moist from sweat and soiled with irritating faeces or glycosuria, etc.; once irritation has started in an area the threshold for stimuli is lowered because the patient's attention is concentrated on the part, and this leads to further scratching, which in turn increases the itching. I need not, however, emphasize the psychological significance of these sites and the problems associated with the patient's absorption in them.

Nervous and Emotional Factors

Rosacea is a condition which demonstrates very clearly the importance of nervous factors in the development of skin manifestations. Rosacea has been described as pathological flushing, and any factor which increases the redness of the face may precipitate or aggravate the condition in a predisposed person. Such factors are the excessive intake of alcohol or tea, often with an associated gastritis; the menopause and pelvic disorders; local sepsis in teeth or antra; and exposure to extremes of heat and cold, especially when the latter is combined with wind. One or more of these are usually emphasized in discussions on the cause of rosacea, but the most important factor—the psychological one—is often neglected, though it is obvious that blushing is closely bound up with emotional reaction. Actually, investigation of rosacea patients rarely fails to reveal an abnormal personality. They are usually of the shy retiring type, unwilling to make social contacts, self-conscious, and sensitive about their appearance, so that as the condition progresses they tend to retire more and more into their shells. The commonest type of patient with rosacea in my experience is the unmarried schoolmistress from 35 to 45 years old. Klaber and Wittkower (1939) investigated a series of 50 cases of rosacea and found that "35 of the cases (in contrast to 11 of the control group) described themselves as quiet, reserved, and serious-minded children. They disliked parties, games, and group activities; preferred to play alone, and were fond of reading and thinking. They made few friends. . . . 15 rosacea patients, in contrast to 39 controls, described themselves as lively, sociable, and care-free children. . . . The onset of rosacea was preceded in 13 cases by an acute emotional trauma, serious enough to be regarded as a precipitating factor, and in 20 cases by prolonged emotional stresses." The following case of mine illustrates the importance of the psychological approach:

Miss A. (35), a schoolmistress, is one of four sisters. The other three are married, but she had to break off her engagement in order to look after her father and mother. She lived with her parents in a large old house which was very inconvenient to run, but her father refused to leave it; Miss A. had to do all the housework when she returned home from school in the evenings. Her sisters traded on her self-sacrifice—particularly one, a first-class hysteric, who periodically came home and went to bed for a week. Miss A. has gradually had to abandon all her social activities, including church work, because of her home ties. Three months ago her father became ill and she sat up every night with him, on top of all her other duties. After six weeks he died, and within two days she developed a fierce rosacea. The outbreak was attributed to the strain of nursing her father.

I suggest that the true explanation is that her father was a great burden to her, and subconsciously she must have desired his death, though, with characteristic overcompensation, she sat up every night during his illness. When he did die the fulfilment of her suppressed wish produced a sense of guilt lest she had in some way contributed to his death, and as a result she developed a guilty flush—i.e., rosacea. I explained all this to her and told her that she must live more for herself and move with her mother into a small easily run cottage; this, together with some local treatment, produced a dramatic improvement. It has been suggested that the emotional factor acts upon the face only indirectly through its influence on gastric tone, which has been shown to be related to rosacea (Eastwood, 1934). I do not think that it is necessary to introduce this complication when one remembers how directly flushing of the face is related to nervous influences; and, anyhow, the important thing is that all cases of rosacea should be considered from the psychological aspect.

That worry makes the hair fall out is a popular conception. I would go further and say that all cases of alopecia areata are nervous in origin and that all successes claimed for local treatment are due to suggestion or spontaneous improvement, though I admit that the actual speed of growth of hair is increased by hyperaemia. One could give endless instances of acute or chronic psychological factors causing alopecia, and there is a type of patient who reacts to adversity by losing his hair and is likely to do so repeatedly whenever things go against him. The following case, which was under the care of Dr. Ingram for several years, and which he has allowed me to quote, is a good illustration of the effect of nervous influences.

A. B., an only boy, suffered from alopecia totalis from about 7 years old. He was given a great variety of treatment at the General Infirmary at Leeds, including ultra-violet light, x rays, hormones, etc., without result. The parents, who lived in an isolated house, kept an anxious watch on the boy's scalp, but each morning failed to reveal any growth even to the closest scrutiny. Finally, after several years of treatment, Dr. Ingram insisted that the boy, who was now 14, should be sent away from home. After his first term at boarding school he returned home with a complete head of hair.

Another condition in which a sudden shock or a definite period of strain plays an obvious part is lichen planus. The onset of this disease is often dramatic; one patient of mine had a sudden attack of haematuria and developed lichen planus two days later, while another broke out the next day after answering the telephone and being told that her best friend had been killed. In these and similar cases the emotional factor is the trigger that sets the condition going, and the case is often rapidly cured; when, however, the rash develops after a period of worry or nervous strain, it may require considerable readjustment in the patient's mode of living before a cure can be effected.

Hyperidrosis; Warts

Hyperidrosis is a problem of some magnitude in the Army. The usual sufferer is of the active, highly strung type with tremor of his hands and feet—often a good soldier, but relegated to a low category because of his feet. The condition is almost incurable by ordinary means, though it can be controlled to some extent by foot toilet, sodium hexametaphosphate, etc. An indication of the real cause of the condition is given by the following patient of mine:

Cpl. X., a first-class soldier, but Category C because of severe hyperidrosis, had never had any trouble with his feet until 1940, when he was evacuated from Dunkirk. Since then he has had sweaty feet, which he attributed to wearing boots and marching continuously for five days. Examination showed his feet to be offensive, with the characteristic livid hue over the ball and outer side of the feet and heels, "honeycomb" maceration of the soles, and sodden skin between the toes (this latter is often wrongly diagnosed as ringworm). The hands are sweaty and tremulous.

The explanation is obvious: the experience at Dunkirk made him sweat and tremble with fear, and this emotion has persisted in his subconscious and is responsible for the persistence of his symptoms. Here is a real line of attack on this incapacitating condition, but in most cases it is by no means a simple psychological problem even for the trained psychiatrist.

One final condition might be of interest to the psychiatrist—the common wart. Warts are due to a virus, and can be transmitted from one person to another by injecting an emulsion of wart tissue. Despite this, Bruno Bloch maintained that he could cure 75% of warts by suggestion. My own experience confirms this possibility, and everyone will recall instances of warts being cured by methods which border on the magical. We have here apparently a remarkable instance of the course of an infection being modified by a psychological process, though I doubt if the psychiatrists would appreciate being sent all the patients with warts who crowd the skin clinics.

Conclusion

This paper is by no means exhaustive, but I hope it will indicate the importance of the psychological approach to dermatology and the close liaison there should be between the dermatologist and the psychiatrist. In the Army there is now ample provision of psychiatrists, and Army specialists of all kinds, having got accustomed to co-operating with them, will surely demand a similar service when they return to civil practice. Unfortunately exigencies of the Service tend to stress the diagnostic aspect. When we return to civil life we shall no longer be able to dispose of our difficult cases by boarding them to Category E, and it is among these that in the future I hope to see the psychiatrist playing a large part in dermatology.

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SICKNESS RECORDS OF NURSES IN A GENERAL HOSPITAL

BY

JOYCE WRIGHT, D.M.

(University College Hospital Medical School, London)

The attention of hospital administrators in various countries has from time to time been directed to the health of nurses and to the protection of hospital personnel from the occupational hazards of their work. While considerable interest has been shown in the occurrence and prevention of tuberculosis among nurses, comparatively few investigations are recorded on the nature and incidence of other ailments.

"The Maintenance of High Standards of Health in the Nursing Community" was discussed at the Congress of the International Council of Nurses in 1937. Pietzcker (1937) gave the interim two-year report of the Health Statistics Committee, whose research work comprised a five-year plan, starting in 1934. Questionnaires were sent to the best-known nursing schools in 32 countries. They were evidently having educational value, for a 44% return was made in 1935, compared with 22% for the previous year; and hospitals were found to be introducing new measures with regard to staff health.

The United States National League of Nursing Education (1938) in its *Study of the Incidence and Costs of Illness among Nurses* published the results of a survey on the illnesses of student and graduate nurses. Two hundred and twenty-three nursing schools, comprising 17,364 student nurses and 8,794 graduate nurses, returned reports for the year 1937-8. The Study disclosed certain significant facts, among them the following:

(a) In the country as a whole student nurses had more illness than graduate staff nurses; the annual average number of days of illness per student nurse was 8.3 and per graduate nurse 6.6. (b) Clinical students were ill more than preclinical students. The annual average number of days of illness per clinical student was 9.2 and per preclinical student 5.2. (c) Students on the paediatric service or on the communicable diseases service had a higher illness rate than clinical students on all other services. (d) Average days of illness for both students and graduates were highest in January, February, and March. (e) The annual financial cost of hospital treatment for student and graduate nurses was estimated at 3 to 4 million dollars. (f) Health records of graduate and student nurses, as measured by days off for illness, were not so favourable as those of college students and of women in the clerical, industrial, and teaching fields.