remaining case resembled the one in the text, having both renal agenesis and iniencephaly. Again there was hydramnios and a normal amnion.

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RELATIONSHIP OF STRESS TO THE DEVELOPMENT OF SYMPTOMS IN ALOPECIA AREATA AND CHRONIC URTICARIA

BY

MARGARET REINHOLD, M.D., M.R.C.P.

Clinical Assistant, St. John's Hospital for Diseases of the Skin, London

Agreement has not yet been reached on the part played by emotional disturbance in the development of two common disorders, alopecia areata and chronic urticaria. In an attempt to assess the relationship of psychological stress to symptoms, a study was made of patients suffering from these two conditions in the out-patient department of St. John's Hospital for Diseases of the Skin. The effects of *adequate* psychotherapy on symptoms were also studied. The study depended on the taking of a very long and detailed history of every case (when necessary, over several interviews of an hour each), together with a careful follow-up of patients, each of whom was seen at short, regular intervals over a period varying from 3 to 18 months, during interviews which lasted from 45 to 15 minutes. Most patients were followed up for more than one year.

The time devoted to the patients seemed to be of extreme importance. Many were not able to discuss their difficulties in the first few interviews, but as time went on they were able to talk more freely. From the therapeutic point of view also, the time devoted to each patient was of major importance. In many studies of this kind the psychotherapy offered may consist of brief interviews spaced widely over a varying period. In the present study it was, in certain cases, not possible to give adequate psychotherapy for the condition, the psychological disturbance being too profound.

There were 52 cases of alopecia areata and 27 cases of chronic urticaria. The groups are here treated first separately and then together, as the conclusions relate equally to both groups. Patients were referred for psychiatric assessment in a haphazard manner by various members of the staff of St. John's Hospital. There was no definite selection of cases, but it is possible that physicians remembered to refer patients when some psychological disturbance seemed present. Cases were studied between the beginning of July, 1957, and the end of January, 1959. All the cases were followed up for three months at least, several for more than a year. In both these groups there was not a single patient who did not reveal either a very unhappy or stressful life previous to onset of alopecia or urticaria, or moderately severe neurotic symptoms in life previous to onset of symptoms. Frequently there was a combination of both.

The patients were divided into the following groups.

Group A: Those in whom a long history of stress had occurred before the onset of symptoms. Symptoms might have been precipitated by a sudden fresh stress—major in character.

Group B: Those in whom a long history of stress had occurred before the onset of symptoms. Symptoms might have been precipitated by a sudden fresh stress—minor in character.

Group C: Those in whom a long history of stress had occurred before the onset of symptoms, without a fresh, obvious stressful situation precipitating symptoms.

Group D: Those in whom no very clear history of stress was obtained, but signs of previous psychological disturbance were present—for example, insomnia, fear of crowds, fear of the dark, nervous breakdown, and so on.

Group E: Those in whom symptoms were associated with an obvious depressive illness—that is, severely depressed mood, insomnia, loss of weight, feelings of guilt, inadequacy, refusal to go out, and so on.

Group F: Those in whom the symptoms occurred in conjunction with other so-called psychosomatic illness—for example, asthma.

Group	Alopecia Cases	Urticaria Cases
A: Long history of stress and major crisis ..	6	1
B: ,, ,, ,, ,, ,, minor	9	13
C: ,, ,, ,, ,, but no crisis discovered	27	7
D: Psychological disturbance but no stress ..	4	2
E: Depressive illness (but always stress as well) ..	3	2*
F: Other psychosomatic illness	3	2

* Plus considerable stress and also crisis.

The groupings of the 52 alopecia cases and the 27 urticaria cases are shown in the Table. The urticaria patients were tested in the laboratory and not found to react to specific allergens.

Alopecia Areata

The following case-histories illustrate the type of case in the various groups.

Group A

Case 1.—The patient, aged 15, was the elder daughter in a family of two girls. Both parents are alive. The mother, a weak psychopathic woman, had had a love affair with another man (who was a minor criminal, often in trouble with the police) while her husband was away in the Forces during the war. Some time before the development of the present crisis the mother's lover turned up again. She found herself greatly attracted to him and would go out to be with him on the pretext of going to visit her mother. This was suspected by the husband and family, and tension gradually increased. One day the mother went out and took

an overdose of barbiturates. The patient, with her father and sister, waited anxiously for the mother to come home that night, not knowing what had happened to her. At midnight or later, the police arrived with the news that the mother was in a coma in a local hospital. She recovered from the barbiturate poisoning and entered a mental hospital as a voluntary patient, but she remained there only three days. During these three days a policewoman called at the house to inform the patient that her aunt, the mother's sister, had committed suicide in some town in the Midlands. The patient had to go to the funeral with her father. A day or two later the mother insisted on discharging herself from hospital and returned home. She was in a disturbed state of mind, but apparently not certifiable. The patient had to remain away from school in order to look after her mother. She experienced an intensely difficult time. She had to do the housekeeping and look after her younger sister as well. Shortly after the mother's return home, the patient's hair began to fall out in patches. She had never had a previous attack of alopecia areata, and there was no family history of this condition. The patient received support from me, and help as much as possible with out-patient psychotherapy. Her mother was interviewed and advised. The patient was encouraged to live her own life outside the home. Her hair gradually grew again.

Other examples of major crises were: (1) Accidents with cars or motor-cycles—in which the patient had committed an injury or caused death to another person or simply knocked over without injuring another person (three cases of this kind). (2) Broken love affairs and disasters at work.

Group B

Case 2.—A man aged 38 had for many years shared a flat with his elder brother, to whom he said he was devoted. On one occasion, when his brother was away from home for a few weeks, he met and married on an impulse an Arab nursing sister from the West Coast of Africa who was training in midwifery at a London hospital. This woman was naturally possessive and also sharp-tempered. On the return of the patient's brother, intense hostility broke out between her and the brother. This lasted for a year or two. After a particularly severe row the wife left the flat and her husband, and there then followed an appalling scene between the patient and his brother. A little while after the incident the patient's hair began to fall out. The situation gradually improved. The brother took a flat of his own. The wife returned to the West Coast of Africa. In the resulting atmosphere of extreme calm the patient's hair grew again. There was no previous history of alopecia areata and no family history of this condition.

Group C

Case 3.—This patient, a man aged 48, had unfortunately married an alcoholic, by whom he had one son. During her bouts of drinking the wife would go off with other men and remain away for days at a time. Finally she left with another man and did not return. During the weeks which followed her departure, both the patient and his son suffered from an attack of alopecia. The wife made trouble from time to time over the years. The patient's present attack of alopecia, which was total, including beard and eyebrows, coincided with extreme unhappiness and frustration at work. He was helped to adjust to his difficulties. His hair grew again.

Case 4.—An intelligent but very shy man of 28 had been married three years. After 18 months of marriage a son had been born. The patient's wife had had a very bad time with the birth. As a result she said she did not want any more children. Without discussing the matter with her, the patient felt that the only way to avoid further pregnancies was to refrain from sexual intercourse entirely. He said he thought this was what his wife wanted. The last year before he attended at the hospital had been a considerable strain on him, on account of his self-imposed restraint, and during this time his hair had begun to fall out in patches. He had never had a previous attack of alopecia areata, and there was no family history. As a result of psychotherapy he was able to discuss the situation with his wife, who also had been most unhappy about the matter, and intercourse was resumed. The patient's hair quite rapidly grew again.

Group D

Case 5.—A fireman aged 43 developed alopecia in a mild form. No precipitating cause could be found. For years, however, he had suffered from nightmares which would cause him to wake up screaming, and he also suffered from insomnia at times. There was no previous attack or family history.

Case 6.—This patient had tried to become a teacher in the department of adult education. He had at one time been a regular soldier. Some months after his training in adult education had begun he was told by the authorities that his temperament was unsuitable for the work, and that he was too nervous. He was advised to find another occupation.

Case 7.—This patient, a boy of 15, was the only child of a very disturbed woman who herself suffered from skin rashes and had had a nervous breakdown. The boy himself suffered from attacks of depression for no known cause and insomnia.

Group E

These three patients had very unhappy lives, but, in addition, coinciding with the onset of alopecia, they had symptoms of quite severe depressive illness—that is, mood change, self-reproach, loss of appetite and weight, insomnia, loss of interest in life, and even retardation. Their depression was, in all cases, more important and disturbing to the patients than the alopecia. As the depressive illness improved, so did the alopecia.

Group F

The three patients in this group also suffered from stress and difficulties in their environment. The additional illnesses were asthma in all three cases—one patient also had gastric ulcer and urticaria.

Urticaria

Major crisis does not seem to play a great part in precipitating chronic urticaria, at any rate in the cases studied here. Minor crisis seems, however, important.

Group A

Case A.—This patient, aged 43, was an intelligent and devoted mother of a single child, a daughter. A year or two before the onset of symptoms the daughter had married and gone to Canada. Symptoms were preceded by a violent shock—the discovery that the girl had a growth in the bone of her right femur. The fluctuations in the appearance and disappearance of this patient's rash coincided remarkably closely with the news which she received from Canada over the next few months. The unfortunate daughter went through a series of operations and courses of deep *x*-ray therapy. Whenever her symptoms grew worse my patient's rash became worse. Suddenly the patient and her husband were summoned to Canada. The daughter, riddled with secondaries from bone sarcoma, was dying. I saw this patient again a few weeks ago. She appeared in the out-patient department looking thin and pale. To my unspoken question, she nodded: "And as you can imagine," she said at once, "my rash has gone." Her rash has not returned since this time.

Group B

Case B.—A spinster aged 27, a resident school teacher, an only child, noticed with surprise that whenever she went to her parents' home for the week-end or they came to visit her she developed urticaria. Psychotherapeutic interviews uncovered a set of very disturbed relationships in the family. The patient's rash improved, and she later went to a job in Devon.

Difficulties with parents occurred fairly often among patients with chronic urticaria.

Case C.—This patient, a woman aged 23, was a devout practising Catholic married to a non-practising Catholic. She tried to make her husband accompany her to church and improve his views, as a result of which rows and scenes took place. After one such severe quarrel her urticaria first developed. She later noticed that after every disagreement she had a rash. She was helped by psychotherapy to adjust to the situation. With her increasing serenity her rash did not appear.

Group C

Case D.—An Irish woman was married to a man who insisted on going out to the pub of an evening. The patient herself was chained to the home because of their very difficult young children. Urticaria developed at times of rage and frustration. The urticaria improved with her ability to make adjustments to the situation, and also her husband's more considerate behaviour after interviews. When last seen she had had no rash for eight months, and was cheerful and well.

Group D

Case E.—An electrical engineer aged 32, a bachelor, with no friends either male or female, and no hobbies, lived at home with his parents. He was a completely passive, apathetic man, though very good at his work. He had been working for a long time at a job he did not like. He was a chronic masturbator, and as a result suffered from deep guilt. He had a daily rash. He was persuaded to find more congenial work, and generally to widen his interests. Sexual matters were discussed with him and his guilt was relieved to some extent. When last seen he had had no rash for a year, except on one occasion, very slightly, when overworked and overtired.

Groups E and F

The cases in group E were similar to those described above under alopecia areata.

The additional illnesses in group F included peptic ulcer and "nervous breakdown."

Many other examples of dramatically disturbed lives could be given.

Treatment and Progress

Treatment consisted of discussions, mainly on a superficial level, of life situations and factors causing stress. Difficulties were often obvious and florid—as described in the case histories—and concerned with human relationships. A sedative or a stimulant in the form of amylobarbitone and "drinamyl" were used for many patients, sometimes together with a small dose of barbiturate for sleeping — usually amylobarbitone sodium, 2 gr. (0.13 g.).

In the patients with alopecia areata, hair grew again completely in 35 cases; 11 were not followed long enough to know what happened to them, and six showed no improvement even after many months. These six were all cases of alopecia totalis, and had been so when first interviewed. None of these six cases was helped in any way by psychotherapy—that is, their psychological states and the circumstances in the environment could not be changed. One was a man who was impotent, married late in life to a very demanding woman who could not reconcile herself to his sexual ineffectualness. Another was a West Indian who was constantly in trouble with the police. He had killed a boy while driving dangerously in Jamaica, and had been up on a charge of manslaughter, but the jury could not agree and he was discharged. After the case he had left the West Indies and became involved in various shady businesses over here. When last seen he had had another car accident, probably while under the influence of liquor. The other four patients were equally difficult to treat.

The urticaria showed *improvement* (less frequent and less severe rash), or *great improvement* (rare, slight rash), or long *absence* of symptoms in 18 cases followed for several months or longer. Nine cases showed some improvement so long as they were followed, but the follow-up was not long enough to judge results.

Discussion

It is difficult to avoid concluding that in many of the cases described, emotional disturbance was closely related to the onset of symptoms. Whether stress was related to symptoms in all cases is doubtful and perhaps not relevant. The controversy over the relation of psychological disturbance to the appearance of symptoms has continued over many years. As regards alopecia areata, Anderson (1950), in a study of 114 cases, found that 23% had a history of mental shock or acute anxiety preceding the appearance of the bald patches. A further 22% were suffering from various forms of mental disturbance. There was, however, no correlation between persistence of the disease and the presence of mental disturbance. Irwin's (1953) series of 55 cases contained 23% in which mental trauma was considered to have caused the condition, and a further 63% classified as neurotic. Greenberg (1955) reported 44 cases, of which only 7% were free from mental illness. Recently, however, Macalpine (1958) has caried out an extensive psychiatric study of 125 selected cases, and could find no evidence that mental illness, anxiety, or mental shock plays a significant part in causing alopecia areata. One of the arguments advanced by Macalpine was that she did not find that psychotherapy could influence the alopecia areata in her series of patients, and she therefore concluded that the condition was not related to psychological stress.

As regards the aetiology of chronic urticaria, a valuable piece of research was undertaken, including a summary of a great deal of previous work on this subject, by Linford Rees (1957). He found that emotional precipitation of attacks occurred in 68% of his cases. His groups as a whole showed a statistically higher incidence of neurotic symptoms than his control group. The onset of the disorder coincided with stressful life situations in 51% of cases. Dr. Rees found no specific personality type among his cases, nor were the stressful life situations specific. Finally, the emotional precipitating factors were found to be in no way specific. Dr. Rees concluded that complex psychological and physical factors—both together or each separately—may play a part in the development of symptoms in patients suffering from chronic urticaria.

This conception of the aetiology seems to be a logical one, and one which applies to both alopecia areata and chronic urticaria—and possibly to all so-called "psychosomatic" diseases. The divergence of opinion of the various workers mentioned above surely suggests that in certain cases psychological factors predominate or are of obvious importance in the development of symptoms. In other cases, psychological factors are unimportant and physical factors significant in the development of symptoms.

The observation of Dr. Rees that there was nothing specific about the personality of the patients, or the stressful life situations, or the precipitating emotional

factors seems important to me. In the cases described above it appeared that both alopecia areata and chronic urticaria were non-specific responses to non-specific stress in persons of widely differing personality.

It is possible that patients responding with physical symptoms and psychological stress are *potentially* able to respond with the particular symptoms at the particular time. The potential response may depend upon physical disturbance of an organ, abnormal metabolism, or other factors.

In the cases described above there was no relation between intensity of stress and intensity of symptoms. What might be assessed as major stress produced in some cases slight symptoms, and vice versa.

Finally, as regards psychotherapy, it is difficult to assess its effects in the patients suffering from either alopecia areata or chronic urticaria. Both conditions are known to improve spontaneously, with or without treatment of any kind. Many of the patients treated undoubtedly benefited from the psychotherapy in that they were able to accept or alter difficult life situations and in that their anxiety or depression diminished. As mentioned above, those patients who did not improve at all were either profoundly disturbed psychologically or lived in intolerable conditions. Psychotherapy is, as yet, a clumsy and often difficult method of treatment, particularly under out-patient conditions. It is a method of treatment of immense benefit to some and hopelessly inadequate for others. It is surely unwise to come to conclusions on whether symptoms are produced by psychological disturbance or not by judging a patient's response to psychotherapy.

Summary

In an attempt to assess the role of psychological factors in the causation of the two conditions, a study was made, over a period of 19 months, of 52 patients suffering from alopecia areata and 27 patients with chronic urticaria. All patients were treated with psychotherapy for at least three months; most were treated for more than 12 months. Extensive and detailed case histories were made and patients were given long interviews for treatment. In both groups all patients were found to have either very stressful life conditions or moderately severe neurotic symptoms, or both, before the onset of the alopecia and urticaria. Examples of case histories are given. Progress and response to psychotherapy are described. It was concluded that in certain cases stress plays a part in the causation of both alopecia areata and chronic urticaria.

I thank those members of the medical staff of St. John's Hospital for Diseases of the Skin who kindly referred patients to me. I also thank the Medical Committee of St. John's Hospital for permission to use the hospital notes.

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The Minister of Health, Mr. MASON, has called for a report from the Health Department on the current shortage of house-surgeons in New Zealand hospitals. It is possible that the problem will also be examined by the committee investigating the availability and distribution of medical practitioners in New Zealand, which meets again in March. (New Zealand Release A 5/60.)

D

PITUITARY ADENOMA WITH CUSHING'S SYNDROME

BY

ALAN B. SHRANK, B.M., B.Ch.

Registrar, Middlesex Hospital, London; late Senior House Officer, West End Hospital for Neurology and Neurosurgery, London

AND

PAUL TURNER,* M.B., B.S., B.Sc.

House-physician, the Middlesex Hospital, London

Pluriglandular syndromes were described at the end of the nineteenth century. Certain disorders have since been differentiated, and in each one a single endocrine gland was incriminated as the initiator with secondary changes in the others. In 1912 Harvey Cushing described such a syndrome, which he later attributed to the presence of a basophil adenoma in the pituitary (Cushing, 1932a, 1932b). He did suggest that the adrenal glands might be the main mediators, but he thought that the original stimulus arose from the pituitary neoplasm.

In Cushing's series of cases such an adenoma was found in life only in one case, when a surgical exploration was attempted; most were discovered at necropsy (6 out of 12 cases): in none of his cases had there been any suggestion of either expansion of the pituitary fossa or chiasmatic compression.

A case is presented here in which symptoms and signs of a pituitary neoplasm preceded the development of Cushing's syndrome.

Case History

In October, 1955, a 37-year-old man presented with a four-weeks history of loss of vision. He was of average height, weighed 65 kg., and, apart from prominent eyes, his facial appearance showed no anomaly. His blood-pressure was 130/70. He had a left temporal hemianopsia and a left primary optic atrophy, with a visual acuity of 6/24 in both eyes. Skull *x*-ray films revealed a greatly expanded pituitary fossa indicative of a long-standing intrasellar tumour. This was confirmed by re-examination of a skull *x*-ray film taken in 1948 for a minor head injury, which showed a large pituitary fossa; his visual fields were full at that time.

He was admitted to hospital, and investigations showed a haemoglobin of 15 g./100 ml. and E.S.R. of 18 mm./hour (Wintrobe). C.S.F. protein was 90 mg./100 ml., with a slight excess of globulin. An electroencephalogram was normal. Skull *x*-ray films confirmed the large pituitary fossa, which obliterated the sphenoidal air sinus, the anterior clinoids were deeply undercut and the posterior clinoids eroded, while the superior orbital fissures were enlarged. Carotid arteriograms indicated elevation of both anterior cerebral arteries, left more than right. A lumbar air encephalogram confirmed that the tumour was predominantly intrasellar in site: the ventricular system was normal in size and position. The chest *x*-ray film showed nothing abnormal.

Surgical treatment was undertaken in order to prevent further loss of vision. At operation, by Mr. Leslie Oliver, a large tumour was seen in the pituitary region, displacing the right optic nerve. When this was aspirated old dark blood was obtained, and further blood and necrotic tumour tissue escaped after the capsule was incised. As much tumour as possible was removed. It was felt that the

*Now at the Medical Unit, Royal Free Hospital, Hampstead, London.