output fell from 30 mg. to 7.2 mg. She was well psychologically, although on April 6 she complained of some pain over the right iliac fossa and was passing jelly in her urine. This was investigated and found to be of no significance. (It should be noted that the previous case also had a short period of confusion three weeks after her adrenalectomy.) Her husband was seen at the time, and was very happy over the result. She complained that she had "no decent clothes to wear" and spent the remaining time in the nursing home going out with her husband, visiting cinemas, dancing, and improving her wardrobe. She worried over running a house and over the "points" system of rationing. In fact, her conversation was that of any intelligent woman suddenly faced with the difficulties of wartime life after years of isolation. She has been seen twice since her operation, and still maintains her recovery. On Nov. 2, 1944, she wrote to say that she was spending her time shopping, cooking, and housekeeping, and drove her husband's car when possible. The letter was that of a perfectly normal person—which indeed she now is.

It is of interest to note that this is the sixth case in which adrenogenital virilism has been combined with a psychosis, and the fourth in which the psychosis was schizophrenic in nature. The response to adrenalectomy was exactly similar in the previous case we were able to observe before and after operation. The fact that this patient was given the finest treatment (apart from adrenalectomy) suggests that these cases are unlikely to respond to ordinary therapy.

Summary

A further case of adrenogenital virilism combined with a paranoid psychosis is recorded.

These conditions occasionally arise together, and the occurrence of a syndrome, though of necessity a rare one, is possible.

Adrenalectomy appears to be successful in a certain number of cases.

As this condition does not seem to respond to other forms of treatment adrenalectomy should always be considered.

We are grateful to Dr. Wislicky of Manchester, Dr. P. K. McCowan, superintendent of Crichton Royal Hospital, and Dr. Meyer Gross for kindly allowing us to see this case, and for the use of notes and photographs; also to Dr. H. W. C. Vines, pathologist to Charing Cross Hospital, for allowing us to report his findings.

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HYPERTRICHOSIS WITH MENTAL CHANGES THE EFFECT OF ADRENALECTOMY

BY

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The following case of hypertrichosis associated with mental changes, which gradually resolved after adrenalectomy, may be considered worthy of record for its psychiatric interest.

A married woman aged 25 was admitted to hospital on Feb. 1, 1944, under Dr. V. E. Lloyd-Hart and referred to A. S. P. and to R. G. for investigation. She had always, according to her mother, been somewhat introspective, imagining herself to be more seriously ill than others believed her to be. She was married to a soldier, then in Italy, with whom her relations had not been altogether happy owing to his alcoholic habits, but this worry had been relieved from the time he had joined the Army over a year before. Her mother, with whom she lived, was an invalid with an irreducible hernia who suffered from hysterical fits. The patient's young son had severe asthma, which often disturbed her at nights. She remained well until March, 1943, when she had an attack of cough with pyrexia. From that time she began to complain, to a steadily increasing extent, of a roaring and buzzing in the ears, "pins and needles" all over, nausea and abdominal pain, sudden feelings of exhaustion during which she contemplated suicide, insomnia, and a feeling of extreme tenseness and tremulousness. During the five months before her admission all these symptoms became worse, and in addition she began to perspire excessively and offensively. Acne and an inordinate growth of hair made their appearance. Her com-

plexion became sallow and her weight dropped from 9 st. 7 lb. to 8 st. 3 lb. Her breasts became smaller and her menstruation, which had always been somewhat irregular, became scantier and less frequent, appearing for two days at intervals of 24 to 45 days.

On examination she was found to be a thin, sallow dark-haired woman looking 10 years older than her age and with a permanent expression of discontent. There was an excessive growth of hair on the arms, forearms, back of the hands, thighs, legs, and face. The pubic hair was feminine in distribution but excessive. Acne was present on the face and back. The blood pressure was 145/85 and the pulse rate varied between 72 and 100. The breasts were flat and deficient in glandular tissue. Otherwise nothing abnormal was found on ordinary clinical examination. Psychiatric examination revealed a tense hypochondria rather than a true depression. The patient had had certain worries, as already described, but the resolution of some of these had not resulted in any improvement in the hypochondriacal state.

The following further investigations were performed. Glucose-tolerance test: Resting blood sugar 79 mg. per 100 c.cm.; after 50 g. of anhydrous dextrose, half-hourly values of 133, 143, 116, and 108 mg. per 100 c.cm. Blood count: Haemoglobin 110%, R.B.C. 6.2 millions, W.B.C. 7,000. Androgen excretion (Dr. Lloyd Warren): 21 mg. of 17-ketosteroids a day. Perirenal insufflation (R. G.) suggested slight enlargement of the left adrenal gland, but was not conclusive.

A diagnosis of adrenal virilism was made, but in view of the indefinite skiagram she was discharged and readmitted a month later. Perirenal insufflation then seemed to show an increase in size of the left adrenal—an appearance which was actually illusory. The 17-ketosteroids had increased to 33.8 mg. a day. Operation was therefore advised.

At operation on April 21, 1944, the abdomen was explored through a transverse incision extending from just above the umbilicus to the 10th left costal cartilage. After palpation of the pelvic organs had excluded any gross abnormality the peritoneum was closed and the left adrenal identified and removed extraperitoneally. The extraperitoneal removal was helped by high spinal analgesia and the use of diathermy; it was made very easy by the extreme thinness of the patient. The gland was macroscopically normal. The usual precautions against shock were instituted (eucortone before operation, intravenous saline, and repeated blood-sugar estimations for the first 48 hours after operation), but her post-operative condition never gave rise to any anxiety.

The preliminary perirenal insufflation had excluded an adrenal tumour on the right side, and it was therefore possible, by the use of a transverse incision, to combine the essential preliminary exploration of the abdomen with the removal of the affected adrenal. This saved the patient a second operation. Histological examination of the adrenal gland showed a positive reaction to the ponceau-fuchsin stain.

A few days after operation the limbs were shaved, but the hair on the face was allowed to remain. During the next few weeks it gradually disappeared. Two months after operation she looked much more youthful. There was no sign of further growth of hair in the shaven or unshaven areas. She was still rather tense and anxious, and complained, though with less insistence, of indigestion. The noises in the head were now intermittent and were increased by solitude, inertia, and worry. She had not menstruated since the operation.

Eleven months after the operation a remarkable change was found. She looked her age—10 years younger than before the operation. Her weight had risen to 8 st. 9½ lb. Her complexion was no longer sallow, but a normal pink and white. There was no acne or hypertrichosis, though she had not shaved or used a depilatory. Her habitual frown had given place to a ready smile. After three oestrogen withdrawal bleedings had been induced, regular menstruation had begun and had occurred for the last five months without any further treatment. The noises in the head were now absent for long periods and were only occasionally brought on by worry. She was no longer tense, and considered herself to be psychologically normal. Her parents said that she had ceased to be self-centred and that she no longer "played up" or talked about her ailments. They were most impressed by her youthful appearance. Her 17-ketosteroid excretion was now (April 27, 1945) 18.8 mg. a day.

Discussion

The association between adrenal virilism and mental change is discussed by Allen and Broster in their paper on page 696 of this issue. The case here described is of considerable psychiatric interest. The psychological changes preceded the external physical changes. When first seen the patient was drifting into a tense hypochondriacal state in which at times she wished for death. The removal of most of the real causes for her anxiety did not bring about her recovery. This state is notoriously difficult to influence by psychological means.

Only after operation was she set on the road to recovery. It is noteworthy that the insomnia, dyspepsia, and the morbid habit of magnifying the noises in her head did not disappear immediately after the operation but improved over a number of months concurrently with the remarkable change in her appearance. It seems reasonable to suppose that the rejuvenating effect of the operation enabled the patient gradually to emerge from her hypochondriacal state.

TREATMENT OF IMPETIGO

THE VIRTUES OF CALAMINE LINIMENT AND SOME MINOR DRAWBACKS OF LOCAL SULPHONAMIDE THERAPY

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No one with experience of treating impetigo can fail to have been impressed at some time or other by the disastrous effects of using a remedy to which the patient's skin happens to be intolerant. First of all there is the major disaster of sulphonamide sensitization, in which the unlucky patient, after weeks or months of treatment, finds himself sensitized, perhaps incurably, to exposure to ordinary daylight, not to mention half a dozen of the potential irritants of a chemical nature he may have encountered during his illness.

But we are not so much concerned with dangers that are well known as with the accidents of therapy that may conceal their nature under the guise of an intransigent malady that persists in getting worse in spite of our treatment, or that somehow just does not get well. Such events are much more common than may be imagined. It is always well to remember the four things that a given local treatment can do: it can, of course, do nothing at all; it can make the disease better; it can make it worse; and it can prevent it from getting well.

It is the last possibility by which one is so often deceived. We therefore venture to draw attention to a mode of treatment which, incidentally, we claim to give results superior to all others in our own hands, but which also has the great virtue of avoiding the application to the skin of antiseptics or other substances capable of irritating it or giving rise to sensitization. Its main disadvantages are the extravagant use of dressings and the need for considerable skill and care in their application; but these are decisively outweighed by the reduction of the time spent in hospital, and the entire avoidance of disastrous sensitization phenomena.

The Calamine Liniment Method

Our method rests on six principles: (1) The free exposure of all parts to treatment—by shaving, if necessary. (2) The avoidance of trauma (apart from that occasioned by shaving). (3) Ensuring that the dressings are kept in close apposition with the affected parts, and that they remain moist. (4) That they are removed only for the few minutes necessary for shaving or re-dressing, and immediately reapplied. (5) That every outlying lesion is included in the treatment and that the dressing extends an inch or so beyond the affected area. (6) Finally, that the method of applying the remedy is altered as occasion demands—e.g., from compresses to smears—not the remedy itself.

Since each of these principles is of importance and neglect to observe any one may result in failure, we feel justified in entering into more detailed explanation of some of them.

Exposure of Affected Parts.—Ruthless shaving is, in our opinion, the key to success. On admission all hairy areas which are crusted are shaved, no matter how raw. To offer a little protection to the tender area, and to aid in softening the crusts, the parts are first anointed with lanette wax base; a lather of soap and water may or may not be used. No attempt should be made to save the hair of the scalp or eye-

brows if involved. They should be thoroughly shaved, as even a small tuft of hair overlooked will delay cure. The eyebrows grow rapidly, and in the presence of persistent crusting it may be necessary to re-shave. Over the bearded region this should be done every second day.

Lanette Wax Base					
Lanette wax	..	..	..	..	10 parts
Vaseline	..	..	..	..	10 "
Water	..	..	..	..	ad 60 "
Modified Calamine Liniment (to economize oil)					
Adeps lanae	..	..	..	..	2½ oz.
Lanette wax	..	..	..	..	2½ "
Calamine	..	..	..	..	3½ "
Olive oil	..	..	..	..	20 "
Water	..	..	..	..	ad 80 "

Avoidance of Trauma.—To shave and to avoid trauma are apparently contradictory instructions. The damage caused by shaving is outweighed by the rapid healing which results from the closer contact secured for the dressing. Apart from shaving, no attempt is made to encourage the removal of crusts. Those crusts which do not separate readily and come away with the first dressing are not interfered with, as they seldom fail to do so with subsequent dressings, leaving a surface rapidly healing or healed.

Dressings.—For the dressing to be effective the closest contact is essential. Folds of gauze, four to eight layers thick, are completely saturated with calamine liniment and moulded on to the affected parts. Apposition in the natural folds is secured by packing and firm bandaging. The ear presents special difficulty. Several layers of gauze in the form of a tape are well saturated and tucked into all the natural folds and crannies of the ear. A similar dressing is made to encircle the ear to prevent the fissuring which so readily occurs at the upper and lower poles and in the retro-auricular fold. Unfortunately the ear dressing sometimes causes earache. To obviate this a dry plug of cotton-wool is inserted into the meatus and changed with each dressing. If the skin infection extends into the meatus the plug can be saturated with the liniment. To reach the deeper parts, otherwise inaccessible to dressing, a drop of cod-liver oil can be instilled. This relieves discomfort. An ear-cap of saturated gauze should be applied to keep the dressings in position. The response to this careful dressing is dramatic, and all crusting disappears in 24 to 48 hours. Subsequently the liniment can be simply smeared on without any dressing to cover it.

After discharge the patient is advised to wash or shave over a protective layer of lanette wax base or calamine liniment for a few days.

There still remain a few points on technique to be mentioned. First, the use of jaconet as a covering dressing. By retaining moisture, this economizes labour and material. Twice-daily treatment has sufficed, and fewer layers of gauze are required. Hot weather and the presence of acute inflammation are contraindications to the use of jaconet. It is essential at all times that the dressings remain moist; otherwise, by adhering, they may cause damage.

Pitfalls leading to failure arise from insufficient padding of the natural folds—e.g., fold of chin, angles of mouth, nasolabial folds, and bridge of the nose—and from bandaging that is not firm enough to keep the padding in position. If the angles of the mouth are involved it is an advantage to apply to the upper lip a dressing which is overlapped at the angles of the mouth by the firm lower-jaw bandage. The nasolabial folds should be treated in the same way as the folds of the ear—with a tape dressing. Bandaging must be firm, and to achieve this two half-masks, consisting of goggles and a four-tailed bandage for the chin, are preferable to one face-mask, which would tend to sag in places. The eyebrows also need particular care, and a specially thick firm dressing to ensure the rapid removal of all crusts. Liq. tinctor. applied twice daily to the eyelids will deal effectively with any lesions too close to the eye for bandaging.

The main points in the management of the case have now been dealt with. There is, however, one other item of supreme importance—that of not lightly changing treatment. One change is apt to lead to numberless others, until the medical officer and skin are both bewildered—the skin finally refusing to tolerate treatment.