The effect on the temperature is strikingly shown on the chart; the evening temperature gradually and steadily fell to normal and never again rose except on one or two isolated occasions when an abscess which subsequently developed gave rise to some local trouble (the abscess had no connection with the site of injection).

The temperature became normal on the 184th day of the illness and thereafter convalescence proceeded steadily though somewhat slowly, as was to be expected after such a prolonged and severe illness, the enlarged liver and spleen diminished in size, and diarrhoea, &c., rapidly disappeared.

About the 215th day a swelling appeared at the costochondral joint of the seventh rib on the left side and developed into an abscess. As the result of opening and scraping this abscess (from which a pure culture of *M. melitensis* was obtained on the 234th day) a sinus formed, which refused to heal, and it was only after excising a considerable portion of the cartilage that the wound healed. This local trouble prolonged the convalescence considerably, but there was no return of a febrile condition. I have seen several cases of costochondral abscess, but never one that gave such trouble in the healing. From the experience gained in this case I should in future consider the advisability of incising the swelling before pus had formed. The agglutination curve is curious. It will be noticed that on the 149th day the reaction reached between 1 to 50 and 1 to 100. This serum was tested with the patient’s own strain recovered from his blood, but so also was the serum of the 137th day which gave no reaction. After the first dose of vaccine (100 million) the agglutination fell to 1 to 20, suggesting a negative phase, but rose again after the small doses of vaccine to between 1 to 50 and 1 to 100 and then remained at 1 to 50.

I much regret that stress of work prevented me making a series of opsonic estimations.

In conclusion let me emphasise the point that would seem to be brought out by this case, and one which I laid stress on in my remarks on the treatment of enteric fever by vaccine—that the best results in treatment of an acute infection by vaccine are to be obtained by the administration of a series of small doses at short intervals.

THE TREATMENT OF ECZEMA IN THE TROPICS.

By Major W. D. SUTHERLAND.

Indian Medical Service.

As most of us know to our cost, the treatment of a case of eczema is not always a matter of satisfaction to the physician or the patient; and the more one sees of these cases in the Tropics the less likely is one to rely on any special method of treatment, or to hope for a speedy cure.

What the *causa causans* of eczema is we do not yet know. That
cocci have much to do with the progress of a case of eczema is certain; but the fact that the vesicles have sterile contents in the earliest stage of their development, seems to indicate that cocci alone are not the cause of the condition. Dyscrasias and diathesis have both been many times cited as the cause, but where the writer had a clear idea of what he meant by either of these terms, it would appear that he carefully ignored all facts save those that fitted into his theoretical demonstration of an obscure problem and its solution; in too many cases these precious entities have been used to explain obscurum per obscurius, as so often has happened, happens, and probably will happen, in pathology.

Acting on the supposition that the "state of the blood" was the root of the evil, in the past nearly all physicians relied on drugs and dietary as valuable adjuncts of local treatment of the affected area. Even to-day there are in France and Britain not a few who still prescribe a more or less rigid regimen for their eczematous patients. There are even some who adhere to the theory that in elderly people a chronic eczema is the less of two evils—if it be cured, and thus as it used to be called "driven in," some internal affection is sure to appear, and may carry off the patient. Of all branches of purely medical work, dermatology, as far as the general practitioner is concerned, has remained more or less where it was forty years ago in Britain.

On the other hand, the German school of dermatology has for long scouted the idea that dietary is of service in eczema, save in so far that a diet composed of pleasingly-prepared, easily-digested food, partaken of in pleasant company is of use to every man. So far as his eczema is concerned, the patient may eat what he likes. The beautiful theory that uric acid is the *fons et origo* of all kinds of skin manifestation does not meet with such enthusiastic recognition in Germany—where they do know something about metabolism—as it does nearer home. Drugs given with the avowed intention of "purifying the blood," "promoting a healthy action of the skin," and what not, are of no use in eczema. Arsenic does harm in an acute case from its stimulant action on the epidermis.

While, then, no special general treatment is of service in hastening the cure of an eczematous patient, external applications, when intelligently used, will do good even though the patient makes no change in his ordinary mode of life, as to diet.

How may this external therapy best be carried out? First and foremost, we should enjoin upon our patient that he must on no account wash the affected area, even without allowing soap to come into contact with it. He will naturally reply that, if he does not wash the parts, he cannot keep them clean, and that in the Tropics one must sweat in spite of the physician's orders to the contrary.

Washing with water, however, is not the only way of removing the effete epidermal cells, and as it is the way which tends to keep up the
dermatitis—as the patient may be taught by carrying out parallel experiments on two portions of the affected area—washing with water must be replaced by other methods of abstersion, such as the use of alcohol (unsweetened gin does admirably) or of boiled and cooled olive oil. The use of oil has the advantage that in many cases the bath may be employed and yet the affected area runs no risk of being wetted. When the affected area is treated with alcohol the patient is often put to it to devise a method of keeping the water from this area when he bathes the rest of his body, but with a little goodwill on his part in most cases he will surmount the difficulty.

If the genitals or anal region be the seat of the affection he must not use a bath-tub, but may, after soaping his body, sluice himself down with water poured from a can. Where it is very difficult, or quite impossible, to devise a method of bathing so as to protect the affected area, then the patient must use oil or alcohol abstersion for the whole body surface. In one case the writer induced a lady to abstain from bathing for a whole hot weather and rainy season in India. She used gin for abstersion and at last the generalised chronic eczema, from which she had suffered for years, was controlled. No one who had seen her skin at the end of that time could have called it "dirty," in spite of its having been untouched by water for so long.

We cannot, of course, absolutely prevent the sweating, which is the result of climatic conditions, but we may do much to help our patient to avoid the consequences of uncontrolled action of the skin. We may lessen the tendency to sweat, and at the same time promote drying of the fluid that is poured out. While the use of alcohol as an abstringent decreases the action of the sudoriparous glands to an appreciable extent, the use of alcohol, especially whisky, as a beverage increases this action. I am inclined to think that grain spirit has more effect than malt spirit in this way, but the safest plan is to veto the "peg." If the patient will not hear of this, then let him do as little harm to himself as he can, by drinking brandy instead of whisky. That the average quality of the brandy sold in the Tropics is higher than that of the whisky does not appear to be so generally known as it ought to be.

Of course, all exercise that causes sweating must be tabooed; our patient must leave lawn-tennis, hockey, &c., to those whose skin is healthy. A walk in the cool of the morning and evening is enough for him, however ardently he may have worshipped the fetish of "exercise" when well.

To dry up the sweat a dusting powder—such as one composed of equal parts of starch and oxide of zinc—should be freely used. Some are inclined to add to this time-honoured mixture some boric acid. The writer is strongly of opinion that to do this is at best to waste the acid, which might well be used for other purposes. In not a few cases the use of boric acid tends to keep up, if it does not actually increase, the inflammatory condition, and in these cases it is worse than waste to employ it.
The ordinary treatment of an eczema by local means may be summed up in the words "zinc ointment;" but in the Tropics we shall only too soon find that in many cases all salves must be eschewed as of the evil one's invention. The epidermis, overlaid with fluid as it is, cannot be made to tolerate oily matter—in the damp climate of Bengal, Madras, and Burma the epidermis is sodden in the healthiest of skins. Where salves are contra-indicated the physician must ring the changes on powders. These may be applied by means of a caster, the powder being "peppered" over the surface; or the patient may wear muslin bags filled with powder, hung so that at every motion some of their contents are deposited on the affected area.

If the eczema be acute, nothing can be done until we have lessened the inflammatory infiltration of the part. For this purpose there is nothing more satisfactory than the use of compresses of acetate of alum solution, covered with oiled silk or gutta-percha tissue to prevent evaporation. The steadily-continued use of these compresses for one, two, or it may be three days will often help the sufferer more than any previously employed means of treatment has done. In the writer's experience it is the cases of eczema genitalium that are specially difficult to treat unless one begins with the compresses. The solution is a 1 to 3 per cent. solution of the \textit{liquor aluminis acetici} of the German Pharmacopoeia, which may conveniently be prepared thus:—

\begin{align*}
\text{R} & \quad \text{Alum sulph.} & \quad \ldots & \quad \ldots & \quad 30^\circ\text{O} \\
& \quad \text{Aq. destil.} & \quad \ldots & \quad \ldots & \quad 80^\circ\text{O} \\
(1) & \quad \text{Solve et adde} \\
& \quad \text{Acid. acetici dil.} & \quad \ldots & \quad \ldots & \quad 30^\circ\text{O} \\
\text{R} & \quad \text{Calcis carb.} & \quad \ldots & \quad \ldots & \quad 15^\circ\text{O} \\
& \quad \text{Aq. destil.} & \quad \ldots & \quad \ldots & \quad 100^\circ\text{O} \\
\end{align*}

Bene concuss.

Into (1) we pour (2) and leave the mixture to stand for twenty-four hours, after which it is filtered. Of the solution thus obtained a 1 to 3 per cent. solution is made with distilled water, and the compresses are wetted every three hours with this. In this connection it is as well to call attention to an axiom of dermatological practice—the more acute the dermatitis the less irritating must the application be, if it is to do good. Many skins will not stand a stronger solution than 1 per cent. at first, and to begin with a 2 or 3 per cent. solution in these cases would only bring obloquy on the physician.

In some cases the part of the body affected is, so to speak, inaccessible for this compress treatment. In such a case we may derive benefit from painting on the part, twice or oftener in the day, the zinc cream which is prepared thus:—

\begin{align*}
\text{R} & \quad \text{Zinci oxidi} & \quad \ldots & \quad \ldots & \quad 40^\circ\text{O} \\
& \quad \text{Glycerini puriss.} & \quad \ldots & \quad \ldots & \quad 60^\circ\text{O} \\
& \quad \text{Aq. rosea.} & \quad \ldots & \quad \ldots & \quad 150^\circ\text{O} \\
\end{align*}

M. bene concuss. stet mist. dies iij., dein fluid. supernatans abjicietur; cremo substrat. utend.
Clinical and other Notes

Only once daily the precipitate formed on the affected area so treated is to be removed by means of pledgets of cotton-wool soaked in oil or spirit, used as gently as possible, and then the cream to be again applied. Where the affected surface is very moist we must make shift to powder it, whatever be its situation. The action of the powder is to dry up the moisture and cool the part by abstracting heat from it. The powder should be applied at night, care being taken that the patient is as lightly clothed as is compatible with the prevailing temperature, else he will pass a restless night, even if he has no itching, and as he tosses about in bed will tend to make the powder come on every part save that to which it was applied.

In the hot weather and rainy season he should sleep in light clothing—"Viyella" is an excellent material for sleeping suits—and it should be insisted upon that he does not lie on a mattress. If he does, then that part of his body that is in contact with the mattress will, of necessity, be bathed in perspiration, and when he turns round in bed it will be exposed to the draught of air created by the punkah and undergo rapid cooling; whereas if he sleeps on a sheet all the surface of his body is exposed to nearly the same temperature and no chilling of the surface will take place from change of position. Thin clothing and fairly rapid motion of the air in the room will obviate sweating during the daytime as well as night. The reader may with advantage study the article on "Ventilation in the Tropics" which appeared in the Lancet (1909). The lines laid down in that article, which was, the writer believes, written by a well-known Indian engineer, if they be carefully followed, cannot but have a good effect on our patients health, while at the same time giving ease at night to those who have eczema.

If we can use salves for our patient, then the best of these will be probably be found to be this:

\[
\begin{align*}
\text{R Zincii oxidi} & \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad 20\text{O} \\
\text{Amyli} & \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad 40\text{O} \\
\text{Vasellini} & \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad 40\text{O}
\end{align*}
\]

M. tere bene.

Vaseline does not tend to undergo decomposition, as does lanoline or benzoated lard, even when it is spread on notoriously unfavourable areas, such as the perineum, the axilla, &c. This salve must be spread thickly on the part with cotton-wool, the part being then bandaged, or by means of a glass rod and covered with a thick layer of powder—e.g., eczema of the face or neck.

As the case progresses, to the salve may be added some oil of cade (not more than 1 per cent. to begin with) in order to promote healthy action of the skin. If we have been using powder instead of a salve then we may paint the area with Wright's liq. carbonis detergens, which is far and away superior to any of the numerous imitations of it that are on the
market. The solution used should be at first a 1 per cent. solution of the liquor in rectified spirit, but even this may be found to cause too much irritation in some cases. As the treatment goes on the proportion of oil of cade or tar is increased, a little at a time, until at last at least a 50 per cent. solution of tar is well-borne. When there are signs of irritation being caused by the tar its use should be intermitted for a day or two, and then resumed, a solution slightly weaker than that last employed being applied. In this way the distressing itching which is so prominent a symptom of eczema of certain regions is controlled, and in time entirely removed. In order to hasten this consummation, before all things it is necessary to observe two rules: the tar should never be employed until the affected area has ceased to weep, and the patient must refrain from keeping up the condition by scratching.

The hard thing is to refrain from scratching at night, during the times of sleep and slumber. To aid him in his endeavours to carry out orders the patient should have his hands tied at night. A good way of doing this is to have attached to the head-rail of the bed two stout tapes. These are of such a length that when the patient's wrists are in the slipknots at their ends he cannot, as he lies on his back or his side, reach the affected area with his fingers without putting such a strain on the wrists as will waken him.

Where the skin is cracked the tar will cause so much burning that its use is for this reason contra-indicated, not to mention the fact that when the skin is still cracked the disease has not advanced towards healing far enough for the tar to be of any service as an exciter of keratosis.

Such are the main points to which attention should be paid when we are called upon to treat a case of eczema in the Tropics. Unfortunately, the path of the physician is not made smooth for him by the devices of the pharmacists, as it is in Europe, where many preparations, thought out by Unna and carried out by manufacturing chemists, enable one to make efficient and cleanly applications to the affected area in a manner easily learnt by the patient. Gelanthum, and other ingenious means of medicating the skin, which have been devised by the Hamburg dermatologist and adopted all over the temperate regions of the world, are not at our disposal in the Tropics. Preparations of gelatine require a certain temperature for their manufacture, and without this temperature of the surrounding air to aid him the skilled pharmacist cannot make an elegant preparation, although he follows the directions given by Unna to the letter. It would be of great advantage to physicians who practise in the Tropics if the pharmacists at home could turn out preparations, similar to gelanthum and "zinc-paint," which would stand the strain of keeping them in the Tropics or, better, if they could so modify their formule that the pharmacist in the Tropics could make serviceable compounds of this kind.
Clinical and other Notes

Unless one has seen the results obtained in India one can hardly conceive what unpleasant-looking and utterly unusable compounds are all that the most careful compounding gives rise to when gelatine is used as the base.

In not a few cases the eczema will be complicated by the co-existence of acariasis, phthiriasis, or epiphytosis; of these conditions the last-named is the most likely to be overlooked.

For "dhobi itch" painting the affected part with a solution of iodine in iodide of potassium is a good means of cure; but this cannot be employed when the skin surface is raw with eczema. Then one must use mild applications of Vleminckx's solution. This powerful, though offensive, parasiticide may conveniently be prepared by boiling together, until the total volume has been reduced by a third, the following substances: quicklime, 1 part; precipitated sulphur, 2 parts; water, 15 parts. The resulting golden liquid should be applied to the part at night-time so that the deposit which it leaves may remain in contact with the skin and not be disturbed by the friction of the clothing for a considerable time. Three or four such applications in a suitable case will work wonders. In too many cases, however, the "bite" of the solution is so acute that its strength must be reduced, and thus its parasiticide effect is sensibly lessened.

The reader may think that the differentiation of a scabies eczema from an ordinary eczema is easily made. So the writer thought until he met with the case of a young European who had had to do with a European prostitute in Bombay and afterwards suffered from what seemed to be a plain, straightforward, uncomplicated eczema genitalium. The condition did not improve under treatment, although neither the patient nor the writer spared pains to remove all sources of irritation. At last, one day there was seen, in addition to the weeping, infiltrated, and cracked areas on the folds of the groins, scrotum, and venter penis a suspicious-looking pimple on the dorsum penis, which had not been there at the previous examination. This pimple was a scabies burrow, and the case cleared up quite satisfactorily to the physician if somewhat painfully to the patient when anti-acaric treatment was adopted.

The moral of this story seems to be that when we have a case of eczema which resists our treatment in a more than ordinarily refractory way, or is characterised by more than the ordinary amount of itching, the aid of the microscope should be invoked if the physician has not already had recourse to it in his curiosity as to the exact condition of the skin in the affected area.

At least one physician in India has great faith in the use of ichthyol in salves applied to the eczematous area. The writer has had no opportunity of testing the merits of this addition to the timely application of zinc-vaseline to the affected skin, but doubtless some of his readers may
care to try the combination, varying the strength according to the circumstances of the case.

When we have at last brought about a cure of the eczema, how best may we avoid its return?

For long after the last signs—itching and redness—have disappeared, the use of the tar-spirit should be continued, and the parts, which are painted once daily with, perhaps, pure liq. carb. deterg., should be kept well-powdered; this even when things have so far advanced that the general use of water has been resumed.

The use of alcohol as an abstergent should be resumed when the cold season is at an end, the part that was affected should be lightly touched with a small pledget of cotton-wool soaked in unsweetened gin once a day, although the daily bathing of the part is carried out.

In the cold weather—especially when the dry winds blow—the part may conveniently be anointed from time to time with "fetron," or this substitute therefor: vaselin puriss., 50·0; lanolin, 46·0; eree alb. 4·0; all these to be melted together and allowed to cool, and stored. Incidentally, it may be mentioned that this preparation beats the swindling "skin foods" as an unguent for the skin, and costs very much less. It has, like all lanoline preparations, the disadvantage of at least not hindering the growth of the hair on the part to which it is applied. But even one's female patients do not mind this in the case of certain regions of the body.

The reader will do well to remember that the oftener an eczema has recurred, the more chance of its early return after a cure, and the greater the probability of its becoming chronic. Many chronic eczema cases are, alas! quite incurable, although the physician may do much to make life less unbearable for the sufferers.

THE "KENNY" STRETCHER PILLOW.

By MAJOR H. A. HINGE.
Royal Army Medical Corps.

The Government of India has recently sanctioned the adoption of a very ingenious and useful form of ambulance pillow designed for use with Field Stretchers Marks I. and II., and has allotted the necessary funds for its provision in all nine divisions and independent brigades of the Army in India, including Burma and Aden.

This pillow was first brought to the notice of the military authorities at Simla in 1907, when its superiority over the existing regulation pattern was immediately recognised, and it was not only decided to submit it to a thorough trial in India, but the War Office was apprised of it, and a sample forwarded home for trial.

Both of these trials having proved satisfactory the Indian Govern-