duction of a seton some months ago she has not had a single attack.

As the use of the seton has gone out of fashion, and probably the younger members of the profession have never seen it used, I may perhaps be allowed to explain for their benefit the *modus operandi* more in detail. The skin at the back of the neck is grasped between the finger and thumb of the left hand, and behind the fingers a long-bladed scalpel is forced so as to transfix the skin. Before the knife is removed, a long probe provided with a suitable eye is passed through the wound, using the knife as a guide. The scalpel is then withdrawn. A piece of ordinary household tape half an inch wide is then attached by a ligature to the eye of the probe and the probe pulled through the wound, bringing the tape with it.

Four inches of tape are left free at each side, and these are gently tied together to prevent the tape being accidentally withdrawn.

Instructions are given to the patient to move the tape from side to side each day. The interposing skin between the point of entrance of the seton and that of exit naturally varies with the thickness of the skin of the individual patient, and in some cases may only be an inch, whereas in others there may be a distance of 2 inches.

The operation, if performed with moderate dexterity, need only occupy half a minute, and nitrous oxide is all-sufficient as an anæsthetic.

The seton ought to be worn uninterruptedly for three months at least in the first instance, and should the symptoms recur a second seton ought to be introduced.

A NOTE ON THE RESULTS OBTAINED BY THE ANTITYPHOID INOCULATIONS IN THE 15TH HUSSARS, MEERUT, INDIA.

By A. E. WRIGHT, M.D.,
Professor of Pathology, Army Medical School, Netley.

THROUGH the kindness of Lieutenant-General Sir George Luck, Commanding the Bengal Army, I am permitted to publish the following officially compiled statistical statement dealing with the effects of antityphoid inoculations in the case of the 15th Hussars:

From October 22nd, 1899, to October 22nd, 1900.

	Strength.	Number Inoculated in England.	Admissions to Hospital for Enteric.	Deaths from Enteric.	Number Not Inoculated.	Admissions to Hospital for Enteric.	Deaths from Enteric.
Officers	22	19	0	0	3	0	0
N.C.O. and men ...	481	317	2	1	164	11	6
Women	36	24	0	0	12	0	0
	539	360	2	1	179	11	6

It would thus appear that the incidence of enteric in the inoculated was represented by 0.55 per cent., and the mortality by 0.27 per cent; while the incidence in the uninoculated was 6.14 per cent., and the death-rate 3.35 per cent.

ON THE TREATMENT OF SUPERFICIAL SYPHILITIC GUMMATA.*

By RODERICK MACLAREN, M.D.,
Senior Surgeon to the Cumberland Infirmary, Carlisle.

I PROPOSE in the present communication to deal solely with gummata situated in the superficial tissues. When brought under observation, they have often existed for months or even years, for their course is slow and attended with little pain.

* Read before a meeting of the Border Counties Branch of the British Medical Association.

In one instance which came under my observation, and to which I shall refer presently, a gummatous condition of the thigh persisted for thirty-two years. When left to run their course without treatment, they seem in some cases to undergo a natural cure, with much cicatricial marking and much contraction of surrounding tissues; in other instances they last as long as life continues. Their extent is variable from, say, a small nodule on the tongue no larger than a big pea, or a swelling on the skull of the size of a shilling to a thickening which involves the whole circumference of a limb, and which may extend from the hip to the knee, the knee to the ankle, or the elbow to the wrist. Whatever its size may be, a gumma is characterised when cut into by the presence of a yellow leathery tissue, contrasting in colour sharply with its surroundings, and resembling sloughing fibrous tissue, but not dying and separating as a slough does. This structure is seen at the bottom of the pits when breaking down occurs, and it is then apt to be mistaken for a slough.

A considerable number of cases prove to be very amenable to medicinal treatment. If they are put on large doses of potassium iodide they begin at once to improve, and in the course of a few weeks or months get well. A certain proportion show no improvement under this remedy, and yet get well under mercury. This in my experience is much more efficacious when applied locally than when given by the mouth. It should be rubbed into the affected part in the form of mercurial ointment for ten minutes twice daily, and the skin left covered with it in the intervals. It has seemed to me that the variety of the lesion which yields best is that in which breaking down has been followed by chronic shallow sinuses. I cannot recall a case in which it has been a success when the skin was unbroken. The two photographs (Figs. 1 and 2) are an example of what this treatment may effect. The patient had suffered for seven years from discharging sinuses of the forearm and thickening of the deep fascia of this and the lower arm. Three months mercurial inunction and dressing was followed by complete closure of all the sinuses, leaving the patient with a limb crippled by musculo-spiral paralysis, but still to some extent useful. The photographs were taken after recovery, and each scar was coloured with ink before the photograph was taken so as to bring out clearly the numbers, positions, and areas.

Why potassium iodide or mercury should in some cases be brilliantly successful, in others wholly inert, I cannot tell. I have failed to distinguish any conditions present in the one set of cases and absent in the other, but the occurrence I have observed over and over again.

Not only does this happen, but a number of cases derive no benefit whatever from medicinal treatment. Iodide may be pushed to extreme iodism and continued for weeks with absolutely no effect on the local state. Mercury as a general or a local drug may be employed to the limits of its safe use and get no result.

I do not think it is necessary to spend much time in ascertaining whether or not medical treatment is going to succeed; a fortnight is a fair allowance for each drug, for if the disease is going to be amenable to treatment improvement soon begins. I certainly do not wait as long as I used to do. If there is no diminution in the area of the thickening, in some such time as I have named I arrange to dissect out the diseased tissue. Whenever the situation allows it, the part to be operated on should be made bloodless; this very much facilitates the ease of recognition of the abnormal from the normal. The yellow tissue by its colour and consistence can be distinguished from its surroundings with a certainty which is unattainable among bleeding structures; then bloodlessness allows the wide dissections to be quickly done. I endeavour as far as possible to make straight skin incisions and then dissect the skin and subcutaneous tissue from the deep fascia. Very often the incisions go round three sides of a square or are H-shaped, thus making one or two square flaps. If there are ulcers or sinuses, this simplicity cannot be secured, and the direction of the incisions must be adapted to the condition. The reflection of the skin and superficial fascia generally lays bare the disease, which appears sometimes as a single investing layer, at other dips down among the muscles in the inter-muscular septa. This yellow layer, after being well exposed, is raised by knife or scissors dissection as a continuous mem-

brane, and removed generally in one piece. Occasionally the membrane is so attached that it will not lift in this way, and it has to be clipped off by surface dissection with curved scissors. Scraping is useless; the structure is too tough to be removable by a spoon. As a rule, the dissection does not go near important parts, and consequently it can be done with a free hand. The extent of the disease as estimated by superficial examination is misleading; it may extend far more widely than outside appearances indicate. The layer requiring removal varies in thickness as well as in extent; it

Fig. 1.

rarely attains half an inch, but a quarter of an inch is common enough.

I do not treat the resulting wound in any specific way; it is enough to follow the well-recognised methods of wound treatment. If the skin has been unbroken I close the wound at once, and expect to get primary healing. If the sinuses are small, and can be dissected out entirely, I expect the same result. If, however, there is a large mass of thickening with many ramifying sinuses, it is useless to look for primary healing from immediate closure. It is, therefore, better in such cases to lay all cavities open to their innermost extremities, to convert them into hollow cones with the apex inwards, to dissect away the yellow thickened tissue wherever it can be followed, and to dress the wounds from the bottom, so as to ensure healing by granulation and slow contraction. Sometimes this involves much careful dissection, but the results repay the expenditure of time on the part of the surgeon and the additional severity of the operation to the patient. I have never seen failure. Wherever the gummatous structure has been removed it has healed sooner or later, and no continued reproduction of the morbid tissue has occurred. It is true that in the same patient I have often done repeated operations, but not in the same area. It is no very uncommon thing to find the disease so extensive that it is prudent to deal with portions only at a time, but each area cleared heals up. It is very remarkable how rapid healing usually is. It is sometimes one of the troubles of treatment to prevent the rapid contraction of the superficial tissues from converting the cavity into a narrow-necked bottle, retaining discharge.

I do not find it necessary to take away every particle of altered tissue. If the main yellow layer is removed the thin edges become absorbed; they do not form foci for the fresh spread of the disease, but shortly resolve into normal tissue. When I have not wished to remove all the disease exposed I have been in the habit of scoring it with the knife down to its underneath attachment, so as to limit its circulation, and subject it to the action of normal tissues. I am satisfied that this is a good thing to do.

When the thickening is so extensive as to make it desirable to do the operation by sections it is well to clear out one portion, let it heal, or nearly so, and then proceed to do the same with another area.

Among extensive operations which have fallen to my lot I may enumerate two in which the whole front of the knee-

joint was exposed down to the edges of the popliteal space on each side, one in which by repeated operations incisions extended from the posterior superior iliac spine down to the ischial tuberosity across to the great trochanter and then down the thigh to within a handbreadth of the knee, the gluteus maximus was cut across and turned up as a flap from near its insertion, the dissection was carried three or four inches on either side of the thigh incision, and the external inter-muscular septum was followed down close to its insertion into the linea aspera.¹ The photograph reproduced in

Fig. 2.

Fig. 3 shows the appearance of the scars after healing. In another instance I cleared away a layer covering the flexors of the forearm.

As an example of a troublesome situation may be mentioned a gumma in front of the left ear, just under the branches of the facial nerve. A small oblique incision and a dissection keeping very close to the diseased tissue enabled it to be removed without nerve injury.

Fig. 3.

The syphilitic gumma is very simulative. It is often mistaken for an ordinary abscess on the one hand and for malignant disease on the other; this last specially when it occurs in a soft tissue like the tongue. I have noticed that malignant disease is much more apt to be thought to be syphilitic than syphilitic disease to be taken for cancer, especially as it is a fairly common story for a man with cancer of the tongue to have had syphilis at some antecedent time. The knowledge of the minute structure of cancer now gives us the means of absolutely distinguishing between the two.

NOTE.

¹ This patient's disease was, I have no doubt, hereditary, his first recollection of it dated back to 1868, when he was 15. He was operated on five times from 1896 to 1898. He has continued well since.

ALDERMAN EASTWOOD (Chesterfield) has recently offered to purchase the Durrant Road Board School at a cost of £2,500, to be utilised as a medical block in connection with the Chesterfield and North Derbyshire Hospital, which hitherto has not been able to provide accommodation for purely medical cases. He has also offered to give an additional £1,000 towards the structural alterations and furnishing.