An Address ON SOME POINTS ARISING IN NERVE INJURIES.*

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THERE are few more striking features of the surgery of the present war than the number of nerve injuries which occur. To neurologists this should not have come as a surprise, for we owe a great part of our knowledge of the injuries of nerves to the classical work of Head and Sherren, much of which was carried out at Netley on cases from the South African war. But to many of our profession these injuries open up a field with which they were previously almost entirely unacquainted, which they had always relegated to the specialist physician or to the surgeon with an interest in that direction. Amongst the latter I must class myself, for it was my good fortune to come under the influence of Henry Head and to learn from him something of the fascination of the subject and of its great practical importance. At the present time this can scarcely be exaggerated, and I venture to think there is no subject about which it is more essential that we should all have a practical working knowledge. Before the war these cases were by no means uncommon, but they were largely overlooked. To-day they are numerous, they are sure to fall into the hands of all of us, and upon our personal skill the whole future of the individual may depend.

I propose to keep entirely to the practical aspect of the subject and to avoid all theoretical considerations. In a field so recently extended there is obviously room for wide difference of experience, and you may find that what I have to say often appears to be at variance with the expressed views of others. My own experience is founded upon the observation of some two hundred cases at Netley Red Cross Hospital, in addition to a large number seen before the war, and it seems better that I should give you a clear picture of the views held by my colleagues and myself than that I should invite confusion by attempting to harmonize these with views of which you may read elsewhere.

THE INJURY PRIMARY.

In every case that we have so far seen the injury to the nerve has appeared to us to be primary—that is to say, to be either the direct and immediate result of the wound, or of some supervening condition such as an aneurysm, or of some necessary surgical interference. In no case have we been able to discover evidence of a steadily increasing block, the result of strangulation of an uninjured nerve by fibrous tissue or callus, and we are driven to the conclusion that the very wide acceptance which has been given to this idea is the result of errors of observation. It is by no means easy for the surgeon to recognize with certainty a nerve injury in a man recently wounded, and it is quite unnecessary that he should do so until a later stage. But I have had opportunities of seeing wounds at every stage, and I am strongly of opinion that in the vast majority of cases the nerve is implicated in the primary wound.

This view is borne out by the conditions which are later found on exploration, where one almost always finds a gross injury to the nerve. The nerve may be totally severed, with the formation of end bulbs, or a portion only may be replaced by dense fibrous tissue. But in the latter case careful examination will show that some fibres at least were totally severed. The fact that complete spontaneous recovery may sometimes occur is readily explained when we recollect that one-third of the fibres of any nerve may in general be destroyed, without any permanent loss of function.

The injury being primary, it is possible to diagnose the condition at an early stage and to institute at once suitable treatment. As a result contractures can be prevented, muscles can be kept in good condition, joints can be kept free, and the whole limb can be brought to such a point that when the time does come for the nerve to regenerate,

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whether by itself or with the assistance of the surgeon, it can do so under perfect conditions and with the best possible prospect of success. Of this success the foundation is an early diagnosis, and it is to this that I would next direct your attention.

DIAGNOSTIC FEATURES.

The features upon which we depend may be grouped under four headings—sensory, trophic, motor, and electrical—and these we must consider separately. In each group the changes which occur are immensely complex and require prolonged study for their proper appreciation. But all that need be recognized for the purpose of diagnosis is extremely simple and can be grasped by a little observation.

A. Sensory.

To investigate the sensory changes we only require a pin and a small piece of cotton-wool, or preferably a small soft brush. It is well to start with the brush, as the patient may regard the pin with suspicion, but in most cases the outline of loss to the gentle prick or stroke of a pin will be the better defined. It will be a little smaller than the area of loss to touch, and both will follow the whole or a portion of the cutaneous distribution of the nerve. Occasionally we may find that the area, instead of being anaesthetic, is exquisitely sensitive, and that the lightest stroke of a pin is intolerable. This indicates an injury to the nerve which has not been sufficient to destroy its conductivity, but has set up an interstitial neuritis. Such conditions may be extremely difficult to treat.

The area supplied by the ulnar is very constant, including the little and half the ring fingers, and the ulnar border of the hand. The median area is somewhat very small, and may be limited to the index and middle fingers, but it usually extends on to the corresponding portion of the palm and base of the thumb, while it always includes the dorsum of the two distal segments of the two fingers mentioned. The musculo-spiral area is a minute one on the back of the hand at the base of the thumb, for the external cutaneous branches of this nerve almost always escape.

In the leg the external popliteal area includes the dorsum of the foot and extends up the outer side of the leg for about two-thirds of the distance to the knee. The internal popliteal supplies the sole of the foot and the heel. If the sciatic trunk is injured the calf may also be anaesthetic.

A knowledge of these few areas is sufficient for at least 90 per cent. of the cases which arise, remembering that each individual varies. At each examination the area of sensory change must be mapped out with the most painstaking accuracy, for it is upon the progress of these changes that the whole prognosis and treatment of the case may turn. Accurate charts must be kept and checked every few weeks, for though the diagnosis of a nerve injury may be rapid and easy the discovery of its degree and the proof of its recovery are difficult and laborious.

B. Trophic.

Trophic changes occur in the cutaneous tissues of the same area, but they are far more marked in partial and irritative lesions than in those where division of the nerve is complete. The most striking feature is a glossiness of the skin, with disappearance of the normal folds and ridges, the part becoming, as Head remarks, "expressionless." The skin may be very dry and covered with a branny desquamation, mapping out the area, but sometimes sweating is increased, and the beads of sweat on the glossy skin give a very striking appearance. In other cases the whole surface is sodden and offensive, and is covered by a thick layer of cutaneous debris.

Vascular changes are very evident, and the skin is cyanosed or deep red in colour. The appearance suggests a feeble resistance to trauma, but actual ulceration rarely occurs except as the result of direct injury, such as an unnoticed burn or the friction of a boot. Such lesions heal slowly if protected, but in the foot the skin around an ulcer may become so thickened that healing is very tedious.

The deeper tissues share in the general atrophy, and the fingers become slender and shrunken, and even the bones lose their lime salts.

These trophic changes are always present in some degree, but they are only really striking in partial and irritative lesions, where they may be accompanied by excruciating pain of an intense burning nature, and a tenderness so severe that the slightest touch is intolerable.

C. Motor.

On the motor side there will be diminution or total loss of voluntary power in the muscles supplied by the nerve, but it is, often by no means easy to demonstrate clearly what muscles are involved. On the one hand, the action of paralysed muscles may be imitated by means of other groups; on the other hand, the pain of a fracture, or some other cause, may render totally inactive a group of muscles which are really intact. Thus, in a complete lesion of the musculo-spiral the whole of the extensor muscles of the forearm are paralysed, but extension of the two interphalangeal joints of the fingers can be carried out perfectly by means of the lumbricals. In the same lesion the grasp is very weak, the reason being that for a proper grasp extension of the wrist is essential. From the first circumstance it is common to see lesions of this nerve overlooked, while from the second I have actually seen them diagnosed as cases of median paralysis.

In the case of each nerve there are certain critical movements familiarity with which is important. The musculo-spiral can alone produce extension of the wrist and of the proximal joints of the fingers. Only the median can flex the index finger, and only the ulnar the little finger. Lesions of these two nerves in the forearm may, however, cause confusion, as it is not always easy to unravel the intrinsic muscles of the hand. The median alone can produce opposition of the thumb, with the rotation of that digit which this movement involves. The ulnar supplies the short but thick adductors of the thumb, and by means of the interossei can approximate and spread the extended fingers.

In the leg matters are far more simple, for the external popliteal elevates and everts the foot, whilst the internal popliteal depresses it. Errors are only likely to arise here from a contracture of the calf which interferes with the action of one or the other group of muscles, or from the possible flexor action of the peronei.

In any case of doubt the best plan is to grasp the suspected muscle and to actually feel whether or not it contracts with voluntary effort, though even here the contraction of underlying groups may be very deceptive.

The attitude of the affected limb is often characteristic, but I can only refer to the partial claw hand of ulnar paralysis affecting the little and ring fingers, and of median paralysis affecting the index; to the drop-wrist and intorted thumb of musculo-spiral lesions, and to the drop-foot and steppage gait of lesions of the external popliteal.

D. Electrical.

The electrical reactions as carried out by an expert are complex, but for most purposes they may be reduced to very simple proportions. All that is required is a small induction coil and a group of cells, or any other source of faradic and galvanic currents, with some means of adjusting them. The limb is first thoroughly soaked with warm water, and a large pad connected with one pole is placed in contact with some neutral point. A small pad connected with the other pole is used to investigate the action of each separate muscle group. The normal muscles give a quick response to each form of current, far quicker than any voluntary contraction, the response being most easily obtained at the motor points, near the entry of the nerve. If a motor nerve has been divided, the reactions of the muscles will not at first be altered, but after ten days, the nerve fibres in the muscle having degenerated, the reaction of degeneration will occur. In this condition there is no response at all to faradism, whilst to galvanism the muscle responds with a characteristic slow undulatory contraction, like the slow movement of a worm. The motor points have lost their value, and the muscle responds best to a longitudinal current, along the direction of its fibres. As recovery occurs this contraction quickens, and this is one of the first phenomena observed. It ultimately becomes normal, but it is only after the return of voluntary power that the response to faradism returns.

These simple details are all that are required for the diagnosis of any ordinary case of nerve injury. To carry them out accurately is tedious and laborious, but it is essential for success. The expert will, of course, learn to tell at a glance which nerve is affected, but only by the most painstaking work will he be able to tell the exact condition which is present, or to discover the appropriate treatment. The investigation must be carried out not once but many times if the course of the case is to be followed with any approach to accuracy. But if sufficient trouble is taken we can by these means trace exactly the recovery of a case, state definitely the further period required, and modify the treatment to the precise conditions which are present.

TREATMENT.

From the point of view of the ultimate utility of the limb, a nerve injury overshadows in importance any other damage that may have occurred. A badly united fracture or a clumsy scar are mere trifles compared with an unhealed nerve. It is therefore essential that the treatment of the case should be directed to the repair of the nerve from the earliest moment at which the case is seen. I would impress upon you that operation is only an incident in the treatment, and that it must be preceded and followed by months of work, of which the technique is even more elaborate than that of the theatre. It is so much the custom to divide up the subject into diagnosis, operation, after-treatment, that one is apt to forget that it is just as easy before operation as after to maintain the nutrition of the muscles and the skin, and to preserve the flexibility of joints, and that it may be necessary to go on doing this for months or even years before the nerve wakens from its long sleep and deigns to take up the work itself. I shall therefore first speak of the treatment of the limb, and afterwards turn to the repair of the nerve.

When the limb is first seen there is probably a large septic wound with a fracture, and these must of course at first be the principal considerations. But even here it is easy so to arrange splints that paralysed muscles are relaxed, and that if joints should become stiff they will do so in useful positions. The way not to do it is well exemplified by a wrist sling in the case of a fractured humerus with an injured musculo-spiral, and by a Mitteldorpf's triangle in a high fracture of the same bone. Yet one has often seen both.

Our physical treatment is carried out as a definite routine in a special department under the charge of Captain Twining, R.A.M.C., to whose care its success is largely due. It is grouped in four sections—massage, exercises, whirlpool baths, and electrical—each with its appropriate staff, and when their treatment is in full swing most patients will pay a daily visit to each section.

Massage.

The first treatment which can be adopted is massage, and to it must be given the premier place throughout. It should be started at the earliest possible moment, and splints should be so arranged that as much as possible of the limb can be reached. But even if only a very small area is available it should not be neglected. Massage provides a gentle exercise for the muscles; it gets rid of their waste products, it keeps the skin in condition, and it maintains the circulation and the general nutrition of the limb. The masseuse can preserve the mobility of the joints, and prevent the formation of adhesions, and indeed can in many ways neutralize the results of prolonged inactivity.

Exercises.

When gross damage to the limb has been more or less repaired, wounds healed and bones united, movements, active and passive, on a larger scale may be attempted. For this purpose many ingenious machines have been devised, following the ideas of Zander. The central idea in the best of these is that the patient does gentle work on a machine which includes either a pendulum or a flywheel, the inertia of which always tends to carry the movement a little further. By this means any adhesions which may have formed in joints, or between muscles and tendons, can be gradually broken down and a wide range of movement obtained, whilst the non-paralysed muscles are fully exercised, and regain their normal power.

Whirlpool Baths.

A new form of treatment has lately come into favour in the form of the whirlpool bath. The idea started in France as the "eau courante," but it has been greatly developed in England. The principle is that the limb is surrounded by a stream of rapidly-moving water at as high a temperature as can be comfortably borne, about 110° F. The result is a rapid absorption of heat by the limb, the blood flow in which is in consequence greatly accelerated, whilst at the same time it is subjected to a continuous gentle massage by the moving water. The sensations of the patient are very pleasant, pain is often relieved, and the feeling of stiffness rapidly disappears. The limb is kept in the bath for twenty minutes, at the end of which time it will be found that the skin and muscles have become soft and supple, and that a remarkable relaxation of contracted muscles and ligaments has taken place. Both to appearance and manipulation the limb has improved to a degree that is quite astonishing, and the work of the masseuse is facilitated to an extent that can only be appreciated by experience. We find, in fact, that twenty minutes in the whirlpool bath, followed by ten minutes' massage, is better in its results than thirty minutes devoted to the older form of treatment. The economy in skilled work can be seen at a glance, and, as a matter of fact, the capacity of our massage department has by this simple means been trebled.

Electrical.

The last section of our physical department is the electrical, and I must confess that my ideas as to the value of this method have been revolutionized. We now regard it as at least equal in value to the methods which I have already mentioned, and as having peculiar possibilities of its own. We use two forms of current—galvanic and sinusoidal. The latter is used through the medium of baths, and probably acts chiefly on the vascular channels, for it is never used in sufficient strength to provoke contraction of muscle. The paralysed muscles will, of course, only respond to the galvanic stimulus. This is arranged by means of a metronome to come at regular intervals of two or three seconds, or the small moist pad which forms the electrode is slowly stroked up and down the limb, the muscles responding in turn by a gentle wave of contraction. In many cases the patient is left to do this for himself, which not only releases the nurse but also stimulates the patient's interest in the progress of his own limb, a very important factor in success.

In the intervals between treatment every precaution must be taken to keep the limb warm, protect atrophic skin from injury, to keep paralysed muscles relaxed, and to prevent the development of contractures. A stretched muscle will never recover its function, and in such lesions as drop-wrist and drop-foot an apparatus must be worn which will over-correct these deformities.

This may be taken as a general outline of the treatment we adopt in all cases, though of course variations are often required. We find that the combination works well, each item supplying its own special quota to the whole. The routine is less fatiguing to the staff, whilst the patient finds the passage from one department to another less irksome than the devotion of a longer time to one form of treatment. In fact he comes to regard his treatment as a pleasant occupation for a good part of the day, an important consideration when it must extend over many months before recovery can be expected. The improvement in the limbs is most striking, and we pride ourselves on their almost normal appearance. The skin is supple, the muscles well nourished, and the joints free. The result is the comfort of the patient and the rapid recovery of the nerve.

Operations.

I have left till the last the consideration of operative treatment, partly because I wished to lay stress upon other aspects of the subject and partly because the technique of these operations is very special and should only be attempted in centres where there is an opportunity of gaining a wide experience of the peculiar difficulties involved. The first essential to success is an accurate and intimate knowledge of anatomy, for without it one may wander hopelessly in the masses of scar tissue which all but obliterate the landmarks. Of course, no operation can be undertaken until all risk of sepsis has gone—that is to say, until the wound has been soundly healed for

at least six weeks, or, where bone is involved, for a still longer period.

The suture of a divided nerve where the gap is small and there are no complications is simplicity itself. The nerve is completely freed for some inches above and below the point of injury, where it will be found to be replaced by a mass of fibrous tissue, possibly containing a more or less complete end bulb. The nerve itself must never be handled, but the fibrous part can be held in forceps while a fine catgut suture is passed through the nerve above and below the point of injury. The damaged portion is then resected until all fibrous tissue has been removed and nerve fibres can be clearly seen in both the cut ends. The catgut suture is then drawn tight and the gap closed without any handling of the nerve whatever. A few additional sutures may be required in the larger nerves to close the sheath, but it is upon the first suture that we depend for strength. I am quite unable to see that it can do any harm. It merely separates the fibres of the nerve without cutting them, while it gives a firm and substantial union between the ends.

If there were no further difficulties in nerve suture it would be one of the simplest of operations. Unfortunately, such simple cases rarely occur. In the first place, it may be extremely difficult to find the nerve ends at all, and it may be necessary to start at quite a distant point in order to discover them. In fact, I always begin now with a long incision, and only approach the damaged part when I have isolated the nerve on both sides. In the case of a nerve whose course is so complex as that of the musculo-spiral the difficulties of such a proceeding will be obvious.

The ends being found and cleared, there may be so large a gap that it can only be bridged by artifice. Where it is physically possible the ends are brought together and united by direct suture, for no other method can give such certain results. In most cases it can be accomplished by very wide freeing of the nerve, the vascular supply of which is always ample to allow of this, and by placing the limb in a suitable position. Thus, in the case of the sciatic it is possible to obtain direct suture after the resection of three inches, if the knee is flexed and the hip extended. In one case, where three inches of both median and ulnar had been blown away in the right upper arm, I resected that length of the humerus with complete success, both nerves recovering.

Where there is a large gap there is usually a large end bulb on the proximal end. In this case one may take advantage of a flap operation which I devised to meet the difficulty, and from which we have obtained excellent results. A flap is turned down as far as the bulb, which forms a sort of hinge. The terminal half of the bulb is now amputated, and the raw surface, on which the majority of the fibres must appear cut across, is folded over itself and sutured. In this way the living fibres are preserved to almost their extreme point, and a living scaffold is provided for their downgrowth, which still retains its blood supply. The results of this method have been surprisingly good, and the recovery of one case was, in fact, the most rapid in our records.

In other cases the only way to bridge the gap is by the introduction of a graft, and for this the radial nerve is useful. It is of small diameter, but it can usually be doubled, whilst its removal leaves, as a rule, no disability. I have never used any other material, such as catgut or animal nerve, and I am doubtful as to their utility. Autogenous grafts are undoubtedly preferable.

Perhaps the most attractive of all methods, in a case otherwise impossible, is cross-grafting. This has given brilliant results in animal experiments, and I can see no reason for the wholesale condemnation to which it has been subjected. It can certainly be done without permanent damage to the healthy nerve, for it is possible to divide one-third of the fibres of the median, for example, without any permanent disability whatever. I have done it on three occasions for the benefit of the musculo-spiral, and though they are somewhat recent cases I feel confident from their progress that they will be successful. At the same time it is a method which must at present be regarded with great reserve and only adopted in very special cases.

CONCLUSION.

I trust that in my attempt to give a clear outline of the subject the dogmatic manner in which I have stated my

case may be pardoned. To have adopted any other attitude in such a short communication would have been to invite confusion. My object was not to assert the correctness of any particular view, but to bring home to you the importance of the subject to all of us. I hope you will now agree with me that every medical man, even if he has no time to devote to their study, should at least be alive to the importance of nerve injuries and to the possibilities of their cure.

"MYALGIA": ITS DIAGNOSIS IN FORWARD AREAS.

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Introductory.

THE term "myalgia," originally introduced in order to rescue a certain class of case from the heading "rheumatism," shows a tendency under the conditions of diagnosis which obtain in forward areas to be expanded so as to hold almost as much as the term "rheumatism" itself.

In view of the importance of accurate diagnosis in these cases, both from the point of view of treatment and from the point of view of economy in man power—that a man may be allocated early to work suited to his physical powers—inquiry was made to ascertain the extent, and the directions, in which it might be possible to improve the diagnosis "myalgia" (as generally made) by the application of simple and rapid criteria suitable to the difficulties which attend diagnosis in the front line.

And further, inquiry was made into the leading symptoms of myalgia as seen by the regimental medical officer, in order to provide a basis on which, after the exclusion of conditions likely to be confounded with it, the diagnosis "myalgia" might rapidly and reasonably be made, and (an important point) the severity of the case judged.

The importance of accurate diagnosis at the outset of a patient's journey towards rear areas is enhanced by the great weight which any diagnosis once made carries with it; and the reluctance of a medical officer in a rear area to change the diagnosis—forgetful of the fact that it may have been made in a shell hole. And another reason why the diagnosis myalgia is seldom corrected is that myalgia, by reason of the intangibility of its symptoms and the opportunity it affords to malingerers, has got a bad name, and is generally regarded as a nuisance rather than as a problem.

The observations an account of which follows were conducted at a field ambulance over a period of three months, and with a front line battalion over a period of twelve months. A few cases necessary to complete the series were seen at a casualty clearing station.

I. Differential Diagnosis.

The application of the rough and rapid diagnostic criteria shown below to 200 cases reaching field ambulance and casualty clearing station diagnosed myalgia resulted in an improvement of the diagnosis in 60 cases, excluding those newly diagnosed "neuralgia," and in 108 cases including the new diagnosis neuralgia (that is, in more than one half—as shown in the accompanying table).

Pyrexial Conditions: P.U.O., etc. (19 cases=9.5 per cent.).—In almost all cases the pyrexia was in the evening only. It is noticeable, especially in winter and when for any reason it is difficult to keep the troops warm, that a patient may have an evening temperature as high as 102° and yet be subnormal at the sick parade early next morning. Hence the pyrexial nature of the condition is easily overlooked, unless there is an unofficial evening sick parade or some such arrangement.

Post-pyrexial Conditions (19 cases=9.5 per cent.).—In the majority of cases the patient was able to state that he had been in hospital a short time previously (within five weeks) and that "it said P.U.O. on the card." (Patients appear to take a most painstaking interest in their cards.) In a few cases only the pyrexial nature of the forerunning illness had to be judged by the patient's history of his symptoms—headache, sweating, etc.

The predominant features of these post-pyrexial pains are (i) that they are present in an aggravated degree when

Table showing the Result of an Attempt to Improve the Diagnosis in 200 Cases Diagnosed "Myalgia."

New Diagnosis.	Criteria Applied.	No. of Cases.
Pyrexial conditions ...	Pyrexia (usually evening only)	19
Post pyrexial conditions	History of "P.U.O." or trench fever, within previous 5 weeks, with more or less continuous pain since	
Neuralgia* ...	Pain, aggravated when patient is lying down, warm, and perfectly still	12
Ostalgia* ...	Ditto. Tenderness over shins	5
Unspecified ...	Pain on movement. Stiffness aggravated after rest	2
Arthritis ...	Creaking	
Osteo-arthritis ...	Palpable bony deformity	3
Rheumatoid arthritis	Periarticular infiltration	6
Unspecified ...	—	7
Sciatica ...	Kernig's sign. Nerve tenderness	4
Neuralgia† ...	Pain aggravated when patient is lying down, warm, and perfectly motionless	46
Muscular stiffness following considerable exertion	History	2
Gout ...	Joint signs	1
Muscular cramps ...	History	1
Total ...		108

* Usually accompanied by pain on movement.

† Previous history of "P.U.O." or trench fever, in 21 cases occurring from 5 weeks to 1 year previously.

the patient is warm in bed and lying motionless, and (ii) that they are referred to the shin bones in many cases, there being in a few cases actual tenderness over the subcutaneous surface of the tibia. True myalgic pains, in marked contrast to this, are absent at complete rest but aggravated after rest, until the stiffness, which has increased during rest, has worked off.

Pyrexial and post-pyrexial conditions (19 cases each) thus account for 38 of the 108 cases in which the diagnosis "myalgia" was susceptible of improvement. The importance of the alteration is seen as soon as the question of treatment is raised; the treatment of myalgia by massage, liniments, Turkish baths, etc., being definitely contraindicated in pyrexial conditions, and hardly the best for post-pyrexial neuralgia and ostalgia, in which delayed convalescence seems to be the main factor.

Arthritis (16 cases = 8 per cent.: osteo-arthritis 1.5 per cent., rheumatoid arthritis 3 per cent., unspecified 3.5 per cent.).—The joints affected were mainly knees. A few shoulders were included in the series and one hip. The preponderance of knees is probably largely due to easy diagnosis. There is no doubt that a skilled diagnostician, especially if unhampered by time, would be able to take many more cases—especially shoulders, hips, and spines—out of the myalgic abyss.

The figures are considerable enough in themselves, and become more so in view of the fact that the patients were drawn almost exclusively from what in Germany would be termed a "shock" division, and included few above 40 years of age. The arthritis figures for labour battalions and so on would naturally be very much higher.

The importance of detecting the cases is economical. No treatment for "myalgia" makes them fit for winter work in the trenches. They are a burden to field ambulances and to hospitals, and are only a paper asset to their division, but once the condition is recognized there is some chance that suitable employment may be found for the cases.

Sciatica (4 cases = 2 per cent.).—The diagnosis is important from the point of view of treatment; adequate treatment of recurring sciatica being unobtainable at a field ambulance. Occasionally the rough diagnosis "sciatica" is made where "myalgia" would be nearer the mark.

Neuralgia (46 cases = 23 per cent.).—The importance of this distinction is at present mainly scientific. Patients generally classed as myalgics fall broadly into two distinct classes. In the one class there is no pain when the