

filthy and overcrowded, and, unless there is a highly trained organisation at work there, they easily become centres of disease and veritable plague spots. In the case of the Serbians the overcrowding was due to the very large number of prisoners thrown upon them in the winter season, at a time when there was no adequate accommodation, and consequently they had to huddle together as best they could. Then, again, with regard to nourishment, in an ordinary way Serbia is a poor country, but there is no poverty; it is a country of peasants, each with a small piece of land, from labouring on which a man can gain a livelihood with no great difficulty, but there is not much to spare; there are no great quantities of accumulated capital, practically no manufactures, even the firearms have to be imported from abroad. Consequently, after being at war three times in the space of three years, the amount of poverty and distress which was present at the end of last year may well be imagined. War broke out before the harvest had been properly gathered in, and then there had been the waste of the two preceding years, and therefore the soldiers who had to undergo such great exertions, instead of having more food had less, and after the great victory of December, 1914, there were 67,000 Austrians to be fed in addition. Food was greatly wanted by the starving peasantry, and it was fortunate that the Serbian Relief Fund, through the agency of the Paget hospital, apart from all medical assistance, was able to send large supplies of rice to some of the surrounding villages, which were most gratefully accepted. With such a low physical condition and such inadequate nourishment it is hardly surprising that typhus should have spread so rapidly and that there should also have been a great mortality. For not only did this low physical condition favour the onset of typhus, but the patients more easily passed into an asthenic condition and so died. Then, too, there was a great shortage of doctors, so that it was almost impossible at first to make the necessary arrangements of isolation and segregation, which alone can prevent the spread of the disease. At the outbreak of the war it is estimated that there were not more than 400 Serbian doctors; the mortality among them was very great, so that in July of last year there were said to be only 230; there were, therefore, not enough for the army alone, quite apart from the civil population, which was thus left almost entirely without help in medical and sanitary matters. Last July, however, there were actually working in Serbia some 12 British hospital units and as many as 420 British nurses and doctors. An International Sanitary Commission was established with its headquarters at Nish. Under it the general medical and sanitary work of the country was roughly apportioned between the different coöperating nations. France had charge of the northern half of the country and the United States of the south. Nish and the immediate neighbourhood was under the Russians. To the British had fallen the care of the army and most of the hospital work except that done by the Serbians themselves.

In the midst of war, with the enemy only separated from you by a river, it is easy to understand how difficult it is to organise on the spur of the moment an administrative scheme which could cope with the outbreak of a serious epidemic, even in time of peace it would have been difficult for the Serbians, as they had practically no sanitary arrangements and their general condition in this respect is what ours was in the eighteenth century before Chadwick and the other great sanitary reformers had arisen. Finally, we must remember that the important part of Serbia known as New Serbia had been in the hands of the Turks until three years ago and that no progress, whether physical, intellectual, or moral, has ever emanated from the Turk.

DEATH OF A CENTENARIAN.—The death occurred at Lewes on May 17th of William Hoather, aged 103. A bricklayer by calling he had resided in the Sussex county town all his life. His family is noted for longevity. A sister attained the age of 100 and a brother lived to be 90.

TUBERCULOSIS IN CORNWALL.—The tuberculosis officer for Cornwall (Dr. C. Roper) in his annual report for 1915 alludes to the fact that Cornwall is heavily infected with tuberculosis. He states that in Cornwall, on Oct. 1st, 1915, there were 86,681 persons insured under the National Insurance Act, and in December, 1915, 310 (or 3·576 per 1000) were receiving domiciliary treatment, whereas in Dorset, Hampshire, and Wiltshire, with 289,408 insured persons only 296, or 1·02 per 1000, were receiving domiciliary treatment.

ARRANGEMENTS FOR THE CARE OF CASES OF NERVOUS AND MENTAL SHOCK COMING FROM OVERSEAS.

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IN view of the widespread interest taken in the soldiers sent home from the British armies overseas who are suffering from nervous shock, neurasthenia, and mental breakdown, the Director-General has permitted me to contribute the following information upon the arrangements provided in this country for the care and treatment of these cases.

Cases of nervous and mental breakdown due to shock, fatigue, exposure, and the other conditions incidental to a campaign began to arrive in England in September, 1914, shortly after the commencement of hostilities. The cases showed a varied symptomatology, but could be classified into three main groups. One group was recognised whose symptoms were due to the bursting of high-explosive shells in the immediate vicinity of the patient or to the secondary effects of the explosion, such as burial under earth and débris or the inhalation of noxious gases. The second group included cases of a general neurasthenic character (using this term in its widest sense) attributable to exhaustion of the nervous system resulting from physical and nervous strain, sleeplessness, fear, anxiety, and harassing sights and experiences. The third group included cases of mental breakdown—the milder as well as the more severe psychoses—mental confusion, mania, melancholia, and delusional and hallucinatory psychoses.

At the commencement of the war the cases of nervous shock and neurasthenia were transferred from overseas in company with medical and surgical cases, and were treated in the general wards of the hospitals at which they arrived, while the cases of mental disorder were transferred to D Block, Netley, the established institution for the treatment of mental patients in the service of the army.

As cases of nervous breakdown of all kinds were coming over in considerable numbers in consequence of the severe fighting during October and November, 1914, and as it was deemed desirable that special provision should be made for their treatment, Sir Alfred Keogh commissioned a special medical officer to proceed to France to report upon the cases—their nature and numbers and the conditions under which their treatment should be carried out to the best advantage both during the preliminary stages in France and afterwards on their arrival in this country. The general purport of the report was to the effect that the cases of nervous shock and neurasthenia should be given treatment in hospitals for nervous diseases and in special institutions provided for the purpose, under the care of physicians with special neurological knowledge. In consequence, arrangements were made whereby cases of neurasthenia and nervous breakdown were labelled on their departure from the base hospitals by medical officers with special qualifications for this work, and were transferred directly to the special hospitals and institutions provided for their treatment at home. By these means cases of functional paralysis, neurasthenia, and the milder psychoses were separated as early as possible from cases of severe mental disorder.

The special institutions were the hospitals for nervous diseases and the Red Cross Military Hospital, Maghull. This institution, which was built to meet the requirements of the Mental Deficiency Act, was handed over to the War Office in December, 1914, as it was necessary to have a hospital suitable for those "borderline" cases which required more special supervision than could be given in hospitals. It was desirable also to provide an institution to which mental cases might be sent from D Block in order to obviate their transference to public asylums—a policy which was adopted in view of the special circumstances attending the cause of the disorders. The Military Hospital, Maghull, being built upon the villa pattern, provided the requirements of these cases. To meet the increasing number of cases further institutions were added at later dates to those just mentioned—viz., the Springfield War Hospital for severe and protracted cases of neurasthenia and "borderline" cases, and the Napsbury War Hospital for cases of acute mental disorder requiring asylum care and supervision.

In order that all cases should receive a short period of rest and treatment on their return from France before being transferred to the most suitable institution for final disposal and treatment, two "clearing" hospitals were established early in 1915. These were:—

1. *The Neurological Section, 4th London Territorial General Hospital.*—All neurological¹ cases labelled as such at the British base hospitals overseas were transferred to this section. There they received a short probationary course of treatment, with the result that a large number recovered rapidly and in due course were returned for light duty. A certain number, however, were of a more serious and protracted character. These were transferred eventually to one of the hospitals provided for the purpose—viz., the Maghull or the Springfield War Hospitals. In the event of a patient becoming insane, he was transferred to D Block, Netley, or to the Napsbury War Hospital.

2. *D Block, Netley.*—All cases of acute mental disorder arising in soldiers overseas were transferred to this section. After a short period for observation and discriminatory sifting, the cases were transferred, on the one hand, to Napsbury War Hospital should they be considered of a certifiable character and to require care and treatment under asylum conditions; on the other hand, to the Maghull or Springfield War Hospitals if of a non-certifiable character but requiring more care and supervision than could be obtained in a general hospital.

The foregoing is a brief review of the provision for the cases of nervous and mental breakdown up to May, 1915. For some time before this date it had been noticed that a considerable number of neurological cases were coming from overseas directly into Central and Auxiliary Military Hospitals scattered throughout the country. Partly in order to meet the needs of these cases and partly in order to provide additional accommodation for the increasing number of cases, the Director-General established Neurological Sections in all the Territorial General Hospitals throughout England, Scotland, and Wales (May 24th, 1915). These sections were officered where possible by physicians specially versed in nervous diseases. The primary object of these sections was to furnish the same probationary course of treatment to the cases on arrival at the Territorial General Hospitals as was given in the clearing hospitals and to bring in all cases from the auxiliary hospitals in which suitable or sufficient treatment was not available. Moreover, cases of a serious or protracted nature or cases requiring supervision of a special character could be transferred from them to the Maghull or Springfield War Hospitals.

With the introduction of Neurological Sections into the Scottish General Territorial Hospitals it was considered advisable that a special hospital should be provided in Scotland. Through the assistance of the Scottish branch of the Red Cross this was forthcoming in the Royal Victoria Hospital, Edinburgh, which has continued to provide accommodation for cases of a neurological character.

At the same time a Neurological Section was formed in the main Hospital Building, Netley, the chief object of which was to permit the removal from the convoys arriving at D block from overseas of all cases which the medical officers there considered did not require supervision of a special kind, as some cases had so far recovered on arrival at Netley as to be deemed suitable for treatment in a Neurological rather than in a Mental Section.

In order to understand fully the arrangements existing at the present time for the care and treatment of unwounded soldiers suffering from nervous shock, neurasthenia, and mental disorder let us follow from overseas two or three hypothetical patients to their final destination in this country.

On arrival at one of the British base hospitals abroad the soldier's condition is investigated by a special medical officer. The patient then is sent to a section of a hospital according as his symptoms are of a neurological or a mental character. Should he be suffering from transitory mental symptoms, which subside rapidly, he is transferred from the Mental to the Neurological Section as soon as it is advisable to do so. In order to meet this class of case special accommodation is now being provided at the base hospitals overseas, so that the patient may be placed under the most suitable circumstances for rapid recovery. The patients are labelled for transference to one of the clearing hospitals at home; if

neurological to the 4th London Territorial General Hospital, or the Neurological Section, R.V.H., Netley; if mental to D Block, Netley.

Neurological Cases.

On arrival at one of the clearing hospitals just mentioned, or at a Neurological Section in any Territorial General Hospital, the patient is given treatment. If his symptoms are slight or transitory and disappear rapidly, he is sent on furlough and later is returned to light duty. On the other hand, should the course of the disorder be less favourable, or should symptoms develop which require special supervision, or if it is the opinion of the medical officers that the case is likely to be protracted, or to require special treatment not available in the section, the patient may be transferred to one of the special hospitals for nervous diseases or to a special institution: (a) To the Military Hospital, Maghull, for the Northern and Western Commands; (b) to the Springfield War Hospital for the Eastern, Southern, and Aldershot Commands; and (c) to the Royal Victoria Hospital, Edinburgh, for the Scottish Command. If the patient is under treatment at one of the hospitals in the Irish Command, he may be transferred to the King George V. Hospital, Dublin.

If for various reasons it has not been possible to send patients home through the clearing hospitals so that they arrive directly from overseas at Central or Auxiliary Military Hospitals, in which there is no Neurological Section, or to which no medical officer with special experience is attached, a short period of treatment is given, but should recovery not take place within two or three weeks the patient is transferred for treatment to the Neurological Section of the nearest Territorial General Hospital.

From the preceding account it is evident that every case of nervous shock and neurasthenia coming from overseas is given a short period of rest and treatment in the hospital at home at which he arrives. In many instances this period is sufficient to permit of recovery. In other cases sufficient opportunity is provided to study the symptoms with a view to the transference of the patient to one of the special institutions should this further step be necessary.

Mental Cases.

On arrival from overseas at D Block, Netley, the patients are examined by the special medical officers attached to the hospital. All cases which are considered to be of a neurological character are removed for treatment to the Neurological Section in the main Hospital Building, Netley. All patients suffering from the severer psychoses of a certifiable type are given two or three weeks' probationary treatment in D Block. If no recovery has taken place during this time they are transferred to the Napsbury War Hospital, or to the Dykebar War Hospital, Paisley, if their domicile is in Scotland or if they belong to Scottish regiments.

No mental cases are transferred directly to Ireland, but special arrangements have been made recently by which overseas cases of mental disorder arriving in Ireland may be treated in a villa attached to the Richmond District Asylum.

The number of cases which recover during their stay in D Block and are returned to light duty is negligible, but a certain number recover sufficiently during their stay there to be no longer considered of a certifiable character. These latter are transferred to the Red Cross Military Hospital, Maghull, or the Springfield War Hospital for further observation and treatment.

A short account may be given of the institutions to which reference has been made, the general character of the cases retained for treatment, and the percentage of cases returned to light duty.

1. *The Neurological Sections at the 4th London Territorial General Hospital, and Royal Victoria Hospital, Netley.*—The Neurological Section of the 4th London General Hospital is the largest of the Neurological Sections, and in addition to receiving the majority of the neurological cases sent home directly from overseas, it accepts patients transferred from Central and Auxiliary Military Hospitals in the London district and adjoining counties. It contains 400 beds. An important division of the section is the Maudsley Hospital which is especially well adapted for the care and treatment of soldiers suffering from all forms of traumatic neurasthenia, hysteria, and the milder psychoses.

The Neurological Section of the Royal Victoria Hospital, Netley, occupies several wards in the main Hospital Building and consists of about 100 beds. It serves a most useful purpose in taking over for treatment cases which have been

¹ The term "neurological" is used in this paper to refer to unwounded cases suffering from neurasthenia, the functional paralyses, hysteria, and the milder psychoses.

sent from overseas to D Block, but which require no longer the special supervision provided there. Cases are sent also directly to the section from overseas.

The type of case observed and treated in these sections is similar. They are: Most forms of functional paralysis, especially paraplegia, disturbances of speech and articulation, amnesia or loss of memory, the effects of terrifying dreams, mutism, deafness, deaf-mutism, amblyopia, "bent-back," tremblings and motor agitations, tic-like movements, sleeplessness, nervous debility, indecision, loss of self-confidence, and the milder forms of neurasthenia, simple mental confusion, the anxiety psycho-neuroses, and simple mental depression.

The treatment adopted consists chiefly of rest and feeding; massage and electrical applications in suitable cases; baths when these seem indicated; and psychotherapy in the form of simple suggestion and occasional hypnosis.

In a general way the results of treatment at the Fourth London General Hospital show 40 per cent. of cases returned to light duty, 20 per cent. invalided, and 20 per cent. transferred for further treatment to the special institutions.

2. *The Special Institutions—the Red Cross Military Hospital, Maghull, and the Springfield War Hospital.*—Both these hospitals are constructed on somewhat similar lines in that they are provided with single rooms and special accommodation for cases requiring isolation and supervision in addition to day rooms and dormitories. The Maghull Military Hospital had not been used for the treatment of patients before it was taken over by the War Office, but the Springfield War Hospital had been employed as a hospital for defective children for about ten years.

The available accommodation in the two hospitals amounts to about 550 beds. No case is admitted directly from overseas to either of these institutions, as all cases have received a course of treatment at one of the Military Hospitals at home before transference. The patients most suitable for treatment in these institutions are cases of neurasthenia of a severe or protracted character, the milder psychoses, such as simple melancholia and the anxiety psychoses, psychoses with obsessions and fears, profound amnesia, epilepsy, high-grade mental defectives, the milder types of primary dementia, and all cases of a functional character which do not lend themselves to treatment in a general hospital.

Treatment is conducted upon general lines, rest, feeding, indoor and out-door recreation, and massage in suitable cases. At the Maghull Military Hospital a form of psycho-analysis has been used with benefit in selected cases. The results of treatment at Maghull show about 40 per cent. of cases returned to light duty.

3. *The Mental Hospitals—Napsbury War Hospital and Dykebar War Hospital, N.B.*—These hospitals receive the majority of their patients from D Block, Netley; but Napsbury admits mental cases also from military hospitals in the Southern Command and the Midland counties; Dykebar admits also from military hospitals in the Scottish Command and the northern counties. The Napsbury War Hospital is the hospital section of the parent asylum; Dykebar is one of the most recent of the Scottish asylums built upon the villa pattern. The available accommodation in the two hospitals is about 700 beds.

The patients transferred to these hospitals are of a certifiable type and include most of the severe forms of acute mental disorder—the confusional psychoses, mania, the graver melancholias, acute delusional and hallucinatory psychoses, dementia præcox, mental deficiency with confusion, general paralysis of the insane, and epilepsy with mental symptoms. In accordance with accepted policy, none of the patients in these hospitals is certified as a person of unsound mind. Each patient is given a reasonable period of treatment with a view to recovery. In consequence, however, of the accumulation of chronic and incurable cases which was observed a few months ago, it was decided to board and discharge to asylums all cases of general paralysis of the insane, of epilepsy with insanity, and all patients who had been in asylums prior to enlistment. A certain number of chronic cases also are boarded and discharged to asylums if no improvement is recorded after a fair and reasonable period of observation and treatment.

It is obvious from the nature of the disorders that the percentage of cases returned to light duty must be small, but the figures from the Napsbury War Hospital show from 10 to 15 per cent. of cases discharged to light duty.

CONGESTION IN THE TREATMENT OF CASES OF EPIDEMIC CEREBRO-SPINAL MENINGITIS.

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THE treatment advocated in this short paper is simple and does not interfere with concurrent treatment. Congestion of the cerebral vessels is brought about by raising the foot of the bed not simply on the usual ward blocks, but on stools or lockers, so that the bed and the patient's body, no pillow being allowed, make an angle of from 14° to 23° with the floor. That the method influences the course of the disease profoundly will be gathered from a study of the five cases reported.

Everyone who has treated this disease can call to mind cases which seemed to all but get over the illness, but became chronic and died. It was in this type of case that treatment by congestion was at first tried, later congestion was found useful in the earlier stages of the disease. The histories of the first five cases treated are given in detail.

CASE 1.—Male, aged 20. The patient suffered from a mild attack of the disease and recovered some degree of forward movement of the head. Unfortunately, although he felt well, a slight stiffness of the neck persisted, his temperature was irregular, and leucocytes, chiefly lymphocytes, were present in a clear spinal fluid containing 0.1 per cent. of albumin. On the twenty-seventh day of illness, at 11 A.M. (see Chart), the lower end of the bed was raised on lockers (angle 23°). In the evening of the same day the temperature rose only to 99.6° F. and thereafter remained normal. The bed was lowered four days after the temperature had fallen to normal.

Summary.—A mild case with immediate fall of temperature and complete recovery following the raising of the foot of the bed.

CASE 2.—Male, aged 20. The patient on the eighteenth day of illness vomited, his head was retracted, and he had every appearance of becoming a chronic case (see Chart). On puncture on the nineteenth day the pressure was found to be low. The foot of the bed was raised on stools (angle 14°). There was occasional vomiting until the twenty-second day, when the patient complained of very severe headache and the bed was lowered. On the twenty-third day on puncture a hazy fluid at high pressure was withdrawn. On the twenty-fourth day the patient felt quite well, and the temperature fell to normal. On the twenty-fifth day his head was freely movable. Thereafter his recovery was uninterrupted.

Summary.—Case becoming chronic, spinal fluid at low pressure, foot of bed raised to angle of 14° ; after three days congestion caused severe headache, accompanied by high pressure of the spinal fluid. On lowering of bed a rapid recovery.

CASE 3.—Male, aged 21. After three weeks' illness the patient continued to have marked neck stiffness and temperature (see Chart), and there was no diminution in the number of the diplococci in the spinal fluid. On the twenty-third day of illness the foot of the bed was raised on blocks (angle 9°). No improvement followed, so the bed was raised on stools (angle 14°) on the twenty-fifth day. The temperature fell the same evening, but there was still neck stiffness. On the twenty-seventh day, the temperature again having risen, the bed was further raised on lockers (angle 23°). The temperature gradually fell and was normal on the thirtieth day. On the thirty-first day the patient felt well and his head was freely movable. As the patient continued to feel well his bed was unfortunately lowered to blocks (angle 9°) on the thirty-third day at 10 A.M. In the evening of the same day the temperature rose to 102° F., and he had a slight headache. On the thirty-fourth day his bed was again raised on lockers. By the thirty-eighth day the temperature was normal, the patient felt well, but some stiffness of the neck remained. As the slowness of cure was attributed to the patient raising his head and lying on his side he was restrained from doing anything except lying on his back from the evening of the thirty-eighth day. His temperature rose on the following day, and on the fortieth day reached 102.2° at 6 A.M. Vomiting began at 3 A.M. on the same day, and as he could retain nothing his bed was lowered at 9 A.M. The vomiting ceased at 4 P.M. On the forty-second day the temperature was normal, and he felt well on the forty-third day, but some slight neck stiffness persisted. On the evening of the forty-fourth day, apparently