Clinical and other Notes.

THE AFTER-HISTORY OF WAR NEPHRITIS: WAR NEPHRITICS INVALIDED TO ENGLAND.

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There have been published a number of excellent papers upon war or trench nephritis as it occurs in France, but the question of what eventually becomes of the patients has not been clearly worked out. The condition is usually regarded as a comparatively mild form of acute nephritis, and it is probably true that the majority of cases occurring in France and Flanders recover sufficiently in rest camps or field ambulances to permit of their return to the line. A minority of cases, those in which there is pronounced dyspnoea or extensive oedema, find their way into base hospitals in France, and here they are treated until these symptoms have abated or disappeared, and then are returned to England for further treatment. Of these a few are already free from albumin, casts, and blood, but by far the greater number still afford traces of these pathological elements in the urine.

The present investigation was commenced by Captains J. D. Bruce and A. R. Robertson in the latter part of November, 1916, when a special ward for nephritis was opened. Captain Bruce, unfortunately, left shortly afterwards, and the work was then carried on by the writers, with the purpose of ascertaining the after history of these cases.

To Captain Bruce, and also to Colonel Rudolf, our thanks are due for many helpful suggestions.

While it is true that the mortality in acute stages is practically nil (any death that has occurred among such seeming almost always to have been due, not to a primary condition, but to exacerbations of an old nephritis), it is evident from observations here recorded that the great majority of patients, ill enough to be sent to England, are still far from well at the end of three months. It is now necessary, we would suggest, that a further study be made of the condition of this class of patients at the end of, say, six months and of a year.

We have been able to investigate a considerable number of these cases, and for the purpose of this communication have subjected fifty to a detailed study—after a lapse of from two to three months or more from the onset. We have tried, by
careful questioning as to the exact mode of onset and subsequent course in France, to ascertain what manner of case it is that fails to clear up quickly, and tends to lapse into a subacute or chronic condition; this has revealed some interesting facts.

In our 50 cases we find that the average period of service in France was five and a half months, that 43 had done duty in the front line—either in trenches or gun positions—and that 7 were never at any time in the front line, but were on duty either at a base or only as far as a railhead. As to past illnesses, 9 had had scarlatina in childhood, followed in one instance by severe nephritis; 13 had had measles, with no serious sequelæ; 5 had had pneumonia and 5 rheumatic fever. In three cases there was a clear history of syphilis, which in two patients seems to have had some bearing upon their present condition.

All claimed to have been in perfect health upon arrival in France. All ate the same food, and, with the exception of three, who admitted having drunk trench water when other was not obtainable, stated that they had used only the water that was served out. It is, however, entirely probable that most soldiers at some time use trench or shell-hole water.

The most frequent initial symptom was acute catarrh of some part of the respiratory tract—tracheo-bronchitis in 27, coryza in 23, and "sore throat" in 17. Rarely the entire tract was involved. Accompanying this, but usually following a short time after, was weakness and malaise in forty-four, and chills in twenty-five cases. Some degree of fever was probably present in all cases, but from the patient's own statement a history was obtainable only in twelve. Following this came dyspnoëa in forty-seven cases—in forty of which it occurred in bed. Dyspnoëa was also a fairly frequent first symptom. Then came œdema of varying degree in forty-nine cases, occasionally only as a slight swelling under the eyes, or of the feet. In order of onset, œdema first occurred in the face and under the eyes, then in feet and hands. Accompanying, or often preceding the œdema, was headache of varying intensity in 37 cases—of post-ocular or supra-orbital character in 25, and occipital in 3. In twenty-nine the headache was dull and constant; in nine it was sharp and lancinating. The commonest pain elsewhere was across the small of the back in 40 cases; in the muscles of the legs in 32; abdominal pains were not infrequent, usually epigastric, and of a cramping character in 16; in 12 there were joint pains, and in 19 pains in the long bones. Nausea and vomiting were present in twenty-six cases. Vertigo in thirty-one cases was also quite frequently an initial symptom. Other symptoms that frequently followed were: loss of weight in 25; insomnia in 37; anorexia in 15; diarrhea in 9; constipation in 11; profuse sweats in 18; dryness of skin in 12; mental torpidity in 10; convulsions in 3, and partial or complete unconsciousness in 5. Visual disturbances occurred in eighteen, in one of which there was complete blindness, except for perception of light, over a period of about two weeks. Blurring of vision was the commonest occurrence, and usually came on with the onset of œdema of the orbital tissues. Objects could be seen, but their outline would be indistinct—as would be the case in errors of refraction. In one case the patient volunteered the information that, whereas in good health he had always had to use glasses for reading, he was able to read quite easily during the time that orbital œdema was marked. It seems possible that a change either in intra- or extra-ocular pressure,

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1 Hence our preference for the term "War Nephritis," rather than "Trench Nephritis."
due to oedema of the eye or the orbital tissues temporarily altered the refraction of the eye.

The ocular changes that may have been present during the acute phase of our cases were probably those that have been commonly noted in France—oedema of the retina and the disk, phenomena which were occasionally noted in those that entered with oedema, or those in which oedema subsequently reappeared.

The commonest complaint upon entering this hospital was dull frontal headache, usually present upon awakening, in the morning, and passing off towards midday. Accompanying this were pains across the loins, deep-seated, dull, sometimes unilateral, but usually bilateral, and occasionally radiating downwards towards the pelvis. It was not observed that the degree of pain bore any relationship to small fluctuations in the amount of albumin and blood (usually small) present in the urine. Dyspnœa, on exertion, has been a constant subjective symptom in all cases, with one exception. That this is often real is amply borne out by the fact that some of the patients doing light duties in the ward become dyspnœic very quickly. In a few cases a transient dyspnœa would cause the patient to “start” with a smothering sensation out of a deep sleep; such nocturnal attacks have, though, been both rare and transient. However, the fact remains that the dyspnœa is, even after two or three months from the onset of the malady, such a constant subjective symptom that we have been endeavouring to ascertain to what extent this subjective symptom is confirmed by means of physical exercise tests. We have selected only those cases in which “shortness of breath” on exertion was a voluntary statement on the part of the patient, in no wise elicited by questioning. The patient was told that the physical exercise tests were of the nature of “pulse tests.” Sufficient observations have not as yet been made from which to draw definite conclusions, yet we feel fairly sure that much of the dyspnœa in patients who have been free of oedema and high blood-pressure for some weeks, with urine almost or entirely free of albumin and blood, is psychic or functional in character. It is well known that after recovery from nerve paralysis, following an injury, there is often a greater or lesser amount of functional disability due to the patient’s own impression that he cannot now use the muscles supplied by that nerve.

In a precisely analogous way it is possible that in many of these nephritics the early pathological dyspnœa is succeeded by a purely functional dyspnœa. Our observations upon this subject will be given in a further communication.

In all cases that we have examined after a lapse of three months we have found no enlargement of the heart—even in those few cases in which there is still some increase of blood-pressure and second aortic accentuation. In twenty-five cases seen after a lapse of three months there were four which showed a constant increase of systolic blood-pressure—from 160 to 190—with accentuation of the second aortic sound. In two of these the oedema had been severe and prolonged with subsequent slight exacerbations on several occasions, the amount of albumin had been large, and there was much anæmia. A third case in a man over 40 was more the picture of chronic interstitial nephritis that probably antedated the War. The fourth was the only case in which there was severe albuminuric retinitis. His history is as follows:—

No. 7211, Pte. R. S. M., K.O.Y.L.I. Was strong as a boy; measles at 7; no scarlatina or venereal history. A dental mechanic in civil life. Went to France,
June, 1916, and while in trenches suffered for two months from itching sores on legs, the pigmented remains of which we counted to the number of fifty-one. These were regarded as impetiginous. Was put on light duty back at headquarters. Two weeks later, having lost his appetite and feeling very seedy, his face began to swell, then the hands and feet. He developed hacking cough, sore throat, and was nauseated and vomited. The abdomen then swelled, pain was severe in all muscles, the abdomen, and across the loins. Marked constipation. Previous to these latter symptoms, and while on light duty at headquarters, he had nocturnal frequency, but never noticed any change in colour of urine. The edema lasted fifteen days, and during some part of this time the systolic blood-pressure reached 200, and he was passing a slightly diminished amount of urine. Two weeks later there was a return of edema—almost as badly as on the first occasion. The eyesight became blurred, and a month later the oculist reported "albuminuric retinitis of both eyes. Large area of retina involved, showing large atrophic spots more or less confined to the macular regions; also some small hemorrhagic areas.

Cannot see card at twenty feet." Six weeks later there were "comparatively few recent hemorrhagic areas—most of them, particularly in the right eye; showing large areas of atrophy and pigmentation. Vision has improved immensely." Three months after onset he was feeling much better, but was pale, slightly puffy under the eyes, and had throbbing occipital headache in the morning. Sleeps badly and is very constipated. 'Heart normal in size; slight accentuation of second aortic sound. Systolic blood-pressure 150; urine—twenty-four hours' amount—42 ounces, specific gravity 1017, acid, smoky, albumin 0·3 per cent, urea 1·3 per cent, chlorides normal; many hyaline and granular casts, red blood and pus cells.

In several cases there has been slight and transient return of edema of the face, particularly under the eyes, and also of the extremities, accompanied by a feeling of lassitude, muscular pains, and deep-seated loin pains. In such cases there is usually some increase of the albumin, and often of blood in the urine. A remarkable case in which edema of the hands has persisted in spite of all treatment, and amelioration of other symptoms, is worthy of mention:—

No. 310856 Gnr. F.B., Canadian Field Artillery, was always previously healthy. A policeman in civil life, had previously been an iron-worker. Nephritis began with vertigo upon getting up in the morning. Then he noticed nocturnal frequency, and shortly developed frontal headache, insomnia, and gnawing pains in legs and arms, especially in the bones. Upon reporting sick albuminuria was found. Edema of moderate degree in hands and feet only. No visual disturbances. Three months later there was still slight edema of hands and feet of a brawny character such as one sees in myxedema. Thyroid extract over a period of two weeks had no effect.

Upon exercise the swelling increases and diminishes after resting. Heart normal in size and function; second aortic sound not accentuated; blood-pressure normal. He had only slight dyspnea. Urine—three months after onset—about normal in amount, twenty-four hours, acid, pale, specific gravity 1015, albumin 0·05 per cent, a few granular and hyaline casts, red blood cells and pus cells.

In almost all of our cases several complete examinations of twenty-four hours' specimens of urine were made, with measurements of the "day" and "night" amounts as well. As most of the patients were up, even though under careful
instructions to pass all urine into a specimen jar, it is certain that some was lost at stool, so that the amounts which we give are only relatively accurate. The average twenty-four hour urine for all cases was 1,465 cubic centimetres; the average "day" amount being 785 cubic centimetres, and the average "night" amount 708 cubic centimetres; in nineteen cases the amount passed at night was greater than that passed during the day. The urine was clear amber in colour in all but five cases, which at some time passed "smoky" urine. In the majority of the cases the amount of albumin found was only about 0·05 per cent. The chlorides were about normal in all cases, except one in which there was a transient decrease during an attack of migraine to which the patient had been subject for many years. The urea, which averaged for all cases about 0·12 per cent, was practically normal, in consideration of the fact that all were on restricted protein diets.

In conclusion, we find that almost all cases invalided to this hospital from a base hospital in France show, after a period of three months, a trace of albumin, a few granular and hyaline casts, red-blood cells and pus. The chlorides and urea are about normal. Nocturnal micturition is present in nearly forty per cent of the cases, and there is probably a slightly greater amount passed during the night, between 8 p.m. and 8 a.m. than during the day. Many still complain of dyspnoea, slight headache, pains across the lower part of the back, and a few develop slight transient return of oedema. They are usually very well nourished, and not anaemic; in fact, there is usually a striking absence of the pale countenance so common in the ordinary nephritis of civil life. The blood-pressure is usually normal, and there is no enlargement of the heart. Structural retinal changes are rare, having been seen in only one of our series.

A striking feature has been the fact that in over half of our cases there has been at the onset acute catarrh of some part of the respiratory passage, most frequently a bronchitis, which was usually regarded as simply a "cold." It seems probable that a test for albuminuria at this stage would have revealed the exact nature of the malady, which as a rule was not diagnosed until either hematuria or oedema came on. Therefore, it seems reasonable to expect that in a locality where this infection is known to be prevalent, if all cases reporting sick with "colds" were subjected to a simple quick test for albuminuria, many cases of early nephritis would be brought under treatment then, which otherwise would return at a later date in a condition less favourable for quick recovery and return to duty.

SIX CASES OF KALA-AZAR.

(1) Their Treatment with Intravenous Injections of Tartar Emetic;
(2) Notes on the Epidemiology.

By Major J. C. KENNEDY.
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(1) Treatment with Tartar Emetic.

The following six cases of kala-azar were discovered amongst the convalescents admitted to the Enteric Convalescent Depot, Naini Tal, during 1916. They were received in the ordinary course as convalescents from P.U.O. or one of the enteric group of fevers.

The diagnosis was in each case confirmed by puncture of the spleen and
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