CHAPTER 18

INFECTIOUS MONONUCLEOSIS

INFECTIOUS mononucleosis or glandular fever occurred sporadically in all the Services, and sometimes offered a characteristic, but not always simple diagnostic problem. At one time it was not uncommon in ships of the Royal Australian Navy; as a result of this a considerable series of cases was studied in a Royal Australian Naval Hospital in Sydney. This series was not part of a shore epidemic, but resulted from the close contact of men in mess decks. It never attained serious proportions. In one destroyer, for example, three new cases appeared fourteen days after departure from Sydney. A considerable number of men were at first thought to have streptococcal tonsillitis or an infection by Vincent's organisms, which latter was not rare in the Royal Australian Navy. A thick white membrane on one or both of the tonsils was a not infrequent finding. Lieut-Commander J. K. Maddox drew attention to the true nature of this epidemic and Technical Instruction No. 16 was issued by the Director of Naval Medical Services. More than one patient was suspected of having typhoid fever, by reason of continued pyrexia and the predominance of abdominal symptoms. Abdominal pain was probably related to involvement of the mesenteric glands. The diagnostic value of inguinal adenitis was pointed out in the naval instruction. Although this may be due to other causes, such as superficial infections on the lower limbs, it is a less frequent form of glandular swelling than that of the cervical lymph nodes, and therefore a more provocative sign.

Jaundice was seldom seen. Involvement of the meninges occurred rarely, but was not serious. Neck rigidity might be present without any abnormality in the cerebro-spinal fluid, or cells might appear including polymorphonuclear leucocytes, but these signs settled down quickly without further trouble. Photophobia was occasionally present. A rash occurred only infrequently, but then tended to cause confusion with other exanthems. The blood picture was diagnostic when the characteristic abnormal mononuclear cells appeared, both qualitative and quantitative changes in the white blood cells being significant. The lag in time before this reaction occurred was apt to be misleading.

The Paul-Bunnell test for heterophile antibodies was not found very useful under service conditions because of the lack of facilities except in settled areas, the frequent delay in the appearance of a reaction, and the fact that it was sometimes absent. Comparison of the results of repeated tests gave more valuable information than the exact figures.

The total number of cases of mononucleosis recognised in the Services was small. The greatest number in the army in any year of the war was recorded in 1945, a total of 64, with an incidence of 0.324 per 1,000. Figures for other years show a tenth or less of this incidence rate; this might be due to a small epidemic during this period, but it is probable

also that the disease was sometimes overlooked until attention was drawn to it. It is known that either the virus is of low infectivity or the pre-existing immunity of most people is high, but it is rather surprising that more outbreaks did not occur under conditions apparently favourable for transmission.

Under this heading may be mentioned an infection which was observed on the Atherton Tableland in Queensland. A number of men were admitted to hospital with a mild illness, often unassociated with fever. They complained of headache and malaise, slight shivering and sore throat. Enlargement of the cervical, axillary and inguinal glands was observed; they were not tender and sometimes the patients did not notice them. The spleen and liver were only occasionally palpable. A distinct dark red macular rash was distributed over the trunk, arms and legs. The white blood cells were 7,000 to 10,000 per cubic millimetre in number, with 41 to 61 per cent lymphocytes. Monocytes were normal as a rule. In one instance they formed 21 per cent of the total white cells, and 20 per cent of the lymphocytes were abnormal also. In no instance could a reaction to the Kline, Weil-Felix or Paul-Bunnell tests be demonstrated.

Biopsy of the glands, checked by controls, showed non-specific reactive changes, though islands of reticular cells in germinal centres showed very active hyperplasia. Numerous mitoses were seen and granules suggesting inclusion bodies were noted in some unusual looking cells. The biopsy from one man showed also eosinophile cells, and as he had intermittent pyrexia, he may have had Hodgkin's disease. The nature of this infection was in doubt, but it seems closely allied to infective mononucleosis.

In the treatment of the demonstrated cases, sulphathiazole was used in one naval hospital with apparent abatement of the febrile stage. One feature noticed was the prolonged weakness which followed the infection. Relapses were occasionally seen. Considerable loss of weight was quite common.

The limited experience with this disease during the war emphasises the frequent difficulty of diagnosis and the confusing nature of the clinical variations. This was evident in the number of *formes frustes* seen in Canonbury Naval Hospital in Sydney. The diagnostic difficulties were further emphasised by the number of possible causes of glandular enlargement in men exposed to service conditions in a tropical area.

Further brief reference is made to this in the section dealing with pyrexia of unknown origin.

REFERENCE

D.N.M.S., R.A.N., *Tech. Instr.*, No. 16.