

Infectious mononucleosis in Singapore: A report of two cases

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INFECTIOUS MONONUCLEOSIS is an acute infectious disease characterised by fever, enlargement of the lymphatic glands, and changes in the blood, especially lymphocytosis and the presence of heterophil antibodies, and with a uniformly favourable course (Tidy, 1956). It is said to occur more frequently in temperate countries and is commonest in children and young adults. The causal agent has not been identified, but it is presumed to be a virus.

Only one proven case of infectious mononucleosis has been reported in this country; this was in an American (Sreenivasan, 1966). Time and again, clinicians have diagnosed infectious mononu-

cleosis on clinical and haematological features characteristic of the disease but have been disappointed because the Paul-Bunnell tests were negative. In Malaya, over a period of 12 years (1954-1965), 401 Asians with clinical features suggesting infectious mononucleosis were investigated and not one had a positive Paul-Bunnell test (Tan, 1967).

In this paper, we report two cases of infectious mononucleosis; one in a Chinese boy and the other in an Englishman.

Report of Cases

Case 1

This patient, a 12-year-old Chinese schoolboy,

was admitted for fever with chills of 10 days' duration. He also had a watery diarrhoea during the first three days of his illness. He was born in Singapore and had never been out of the country. On clinical examination, he was febrile (102°F) and had an inflamed pharynx. His cervical, suboccipital, axillary and inguinal lymph nodes were enlarged. His liver was two fingers-breadth and his spleen one finger-breadth palpable below the costal margin. His mesenteric lymph nodes were palpable per abdomen. His tendon reflexes were normal and his toe jerks present.

Laboratory investigations revealed a total white cell count of 12,400 per cu. mm. (65% polymorphs; 29% lymphocytes; 4% monocytes and atypical mononuclear cells 2%). Widal and Weil-Felix agglutination tests were negative and stool cultures grew no pathogenic organisms. The Mono test was also negative. Because the clinical features and blood picture strongly suggested infectious mononucleosis, the "Denco-IM" test was performed and it was positive.

The fever subsided in a few days without antibiotic therapy and he was discharged well after nine days' stay in hospital.

Case 2

This patient, a 24-year-old Englishman, had a history of left hypochondrial ache followed a week later by four days of fever. He then felt lethargic and malaised. On clinical examination, he was not pale nor jaundiced. His cervical and inguinal lymph nodes were enlarged. There was no sternal tenderness. His liver was two fingers-breadth and his spleen four fingers-breadth palpable below the costal margin. Clinically, he was thought to be suffering from infectious mononucleosis.

Laboratory investigations revealed a leucocytosis of 14,500 per cu. mm. (14% polymorphs; 60% lymphocytes; 8% monocytes and 15% atypical mononuclear cells). The Mono test was negative. As in Case 1, the "Denco-IM" test was positive.

Discussion

Infectious mononucleosis is noted for the variable ways in which it may present. Often, the symptoms are no more than those of an upper respiratory tract infection, but it may present as lymphadenopathy, a pyrexia of unknown origin, with rash, lassitude, jaundice, hepatomegaly, splenomegaly, or with central nervous system manifestations (Tidy, 1956). The blood changes usually consist of a leucocytosis, commonly between 10,000 to 15,000 per cu. mm., but higher counts may occur. Initially, there may be a relative granulocy-

to-sis, but this is followed by the characteristic increase of non-granular cells (amounting to 60 to 80% of the total white cell count). These include normal lymphocytes, normal monocytes and atypical mononuclear cells (Tidy, 1956).

The only way of proving the diagnosis of infectious mononucleosis is by demonstrating the presence of heterophil antibodies by the Paul-Bunnell test; a titre of 1:56 or more being usually taken as diagnostic. In order to make the test specific, it is usual to repeat it, when it is positive, according to Davidsohn's (1937) modification, using guinea-pig kidney suspension and serum treated with ox red blood cells, but this complete Paul-Bunnell test is cumbersome, time-consuming and expensive. Hence arose the use of slide agglutination techniques.

The Mono test, which uses sheep red blood cells, was employed to confirm the diagnosis of infectious mononucleosis in the above two patients, but the results were negative. Because of the strong clinical conviction that these two patients had infectious mononucleosis, a new test, the "Denco-IM" test, produced by Denver Laboratories, Ltd., London, was used, and it was positive in both patients. This test uses a 4% suspension of formalized horse red blood cells. Three trials of this test were carried out (Sheil, 1967; Dann, 1967; Davidson, 1967) in addition to the one by Hoff and Bauer (1965), who first described it. These trials showed an overall accuracy of 90% compared with the Paul-Bunnell test with a titre of at least 1:56.

In the above two patients, the positive "Denco-IM" tests over the negative Mono tests serve to illustrate the superiority of the "Denco-IM" test over the Mono test. With greater use of the "Denco-IM" test, infectious mononucleosis may be more commonly detected in Singapore than at present.

Summary

Infectious mononucleosis is considered to be a rare disease in Singapore. In this paper, we report two cases of infectious mononucleosis, one in a Chinese boy and the other in an Englishman. Both were clinically characteristic. The Mono tests were negative, but in both patients, infectious mononucleosis was confirmed by a new and more accurate test, the "Denco-IM" test.

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