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A Case of Infectious Mononucleosis with Concurrent EBV and CMV IGM Seropositivity

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Case Report

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Abstract

Infectious mononucleosis is a common viral infection affecting mainly children, adolescents and young adults. Its main aetiology is Epstein – Barr Virus followed by Cytomegalovirus.

We present the case of a 26-year old lady, presented with clinical and laboratory features of the disease, with serologic evidence of concurrent EBV and CMV IgM positivity. Whether this represents a simultaneous infection or a previous infection by the one virus, boosted by the sequential infection by the second one, is very difficult to distinct.

Case Report

A 26 year old woman visited our clinic complaining for sore throat for three days, accompanied by high fever that reached 39°C. She tried to control the situation receiving 1g of paracetamol 3 times daily for the first 2 days and then she started amoxicillin 500mg twice daily. She decided to ask for medical help because her symptoms insisted in spite of all these. Her medical history was unremarkable, and no significant family history was reported. However she referred that she was taking care of her sister's 3 year old boy during next week when he was also sick and did not go to the nursery school.

On physical examination, fever was 38°C, blood pressure 105/65 mmHg, pulse rate 110/min, respiratory rate 16/min SaO_2 96%. Her pharynx was hyperemic, covered by a white colored exudate. There were several painful, swollen, cervical lymph nodes bilaterally. Lung and heart examination were normal. Spleen was palpated 3-4 cm below left costal margin.

In laboratory tests: white blood cells 7900 /μl with 59,6% lymphocytes and many of the characteristic, ballerina skirt –like atypical lymphocytes detected in the examination of the peripheral blood smear. SGOT 65 U/L, SGPT 68 U/L and all other parameters within normal ranges. Viral antibodies were as follows: EBV IgM 2,09 AU/ml (positive > 1,0), EBV IgG 60,90 AU/ml (positive >1,0), CMV IgM 5,24 (positive >1,0), CMV IgG 4,11 (positive >1,0) and a negative Monospot test.

According to all these clinical and laboratory findings, the diagnosis of infectious mononucleosis was set, amoxicillin was discontinued, and conservative measures were suggested with intensive hydration and paracetamol dosages of 1g when temperature exceeds 38°C.

Two days later the patient returned to show us her swollen abdomen. There was a large splenomegaly reaching the periumbilical region. The spleen was rather stiff and painless. The patient was suggested to continue conservative therapy and avoid any physical activity for a month minimum until she was going to be seen again.

She visited us again, as scheduled, after a month of uncomplicated recovery, in a very good condition, her spleen having hardly being palpated and transaminases restored to normal values.

Discussion

Infectious mononucleosis is a viral infectious syndrome characterized by pharyngitis, fever and lymphadenopathy [1]. Epstein-Barr virus is the main cause of the condition accounting for about 90% of cases [2]. More than half of the rest are due to Cytomegalovirus [3].

The laboratory hallmark of the disease is the lymphocytic preponderance defined as an absolute count of 4500/mm^3 or a rate greater than 10%. Atypical lymphocytes are present and may contribute up to 10% of the total. Up to 80% of patients present with notable transaminase elevations but jaundice are less common [4].

Monospot is a rapid test commonly used for the diagnosis of infectious mononucleosis. This detects heterophile antibodies with a sensitivity of 85 % and specificity near 100% [5].

Although it is practically impossible to distinguish dual infection from sequential infections, in the lack of previous antibody titles, the latter is a probability. The vast majority of adults are considered to be seropositive for EBV, having been infected during early childhood via saliva [6,7]. Acute CMV infection can reactivate immunity against EBV. However the reverse does not appear to occur [8].

On the other hand, history of contact with a sick child is more consistent with an EBV transmission, as is the predominance of pharyngitis and lymphadenopathy that are not so loud in CMV infections [9,10].

After all a recent study claims that, at least in children with primary EBV infection, dual seropositivity is a false positive finding due to antigenic cross- reactivity rather than a result of confection with CMV [11]. Whether our patient is such a case or not, is impossible to say, as there is no model to predict it, and additional studies are needed to confirm that theory.

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