A CASE OF INFECTIOUS MONONUCLEOSIS WITH ATYPICAL SEROLOGY

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SUMMARY

We present a case of infectious mononucleosis (IM) in a 14-year-old boy characterized by typical symptoms associated with an unclear serological pattern. At the beginning, an acute EBV infection was excluded because only anti viral capsid antigen (VCA)-IgG antibodies were found without anti VCA-IgM.

After searching other aetiologies, including the neoplastic ones, serological tests were repeated and anti VCA-IgM antibodies were eventually found, characteristic for acute IM. Probably this was the case of a primary acute IM with delayed onset of anti VCA-IgM.

Key words: Mononucleosis, atypical serology, EBV-VCA-IgM, EBV-VCA-IgG.

INTRODUCTION

Infectious mononucleosis is the best-known clinical syndrome caused by Epstein-Barr virus (EBV). It is characterized by systemic somatic complaints consisting primarily of fatigue, malaise, fever, sore throat and generalized lymphadenopathies, splenomegaly and lymphomonocytosis with the presence of atypical lymphocytes.

The disease is endemic all over the world and it is transmitted with oral secretion by close contact and occurs at every age, especially among adolescence and young adulthood between 14 and 30.

In the following report we describe a case report with a serological pattern of unclear interpretation.

CASE REPORT

C.R., a 14 years-old boy, was sent to our department by a second level center in order to exclude an oncologic disease. For about ten days the boy had had fever, muscular pain, sore throat, lateral cervical swellings, profuse night sweats, hypertransaminasemia without serological pattern of an infectious pathology.

In fact, serologic tests for Cytomegalovirus, Toxoplasma G., Mycoplasma P., Hepatitis A, B and C, Clamydia P., Herpes virus 1 and 2, were negative. EBV serology had been also investigated, and negative Monotest, anti-VCA IgG positive and anti VCA-IgM negative suggested a previous IM.

When the boy was admitted to our department, the symptoms and the clinical pattern were unchanged; abdominal ultrasound showed hepato-splenomegaly without periaortic lymphadenopathies; bilateral cervical and submandibular lymphadenopathies (25 mm max diameter) were shown with ultrasonography; testes ultrasound and chest X-ray were negative.

Atypical lymphocytes were seen in the peripheral blood smear, while bone marrow aspirate was negative and the bone marrow biopsy documented a reactive pattern. Moreover, the suspected acute leukemia was not confirmed with the cytofluorometric analysis of bone marrow.
Therefore, a neoplastic disease was excluded and an infective aetiology was investigated by means of cultural techniques of peripheral and bone marrow blood, expectorated sputum and throat swab. All tests were negative. Moreover, EBV serology was repeated and positivity for anti VCA-IgM and IgG was demonstrated, but anti Epstein-Barr nuclear antigen (EBNA)-IgG was negative.

This pattern, which suggests a recent infection, was unexpected because in contrast with the previous data of anti VCA-IgM negativity and anti VCA-IgG positivity, suggesting past infection. Considering the EBV serology and the regression of the clinical symptoms, the diagnosis of IM with slow resolution was made.

However, considering the CD4+ linfocyte depletion present both in the bone marrow and in peripheral blood, the boy was followed as an outpatient in order to verify the real parainfective nature of this immunological abnormality, that eventually disappeared.

**Discussion and conclusions**

The peculiarity of our clinical report consists in the boy’s symptoms with some characteristic of an EBV infection with an atypical serological picture. Neither initial anti VCA-IgM antibodies, typical for an acute infection, nor anti EBNA-IgG, characterizing a previous infection, were found. Usually the diagnosis of IM is suggested by clinical elements, lymphomonocytosis with the presence of atypical lymphocytes and the increase of transaminases, but it needs to be confirmed by the research of specific antibodies indicating stage of the infection.

Indeed, a primary acute infection is characterized by heterophil antibodies, anti VCA-IgM, persisting about two months and anti VCA IgG remaining, on the contrary, lifelong. The anti EBNA-IgG antibodies appear during the post-symptomatology phase, about two months after the acute period.

Some cases of IM characterized by the presence of anti VCA IgG in the absence of anti VCA IgM and anti EBNA IgG antibodies, that makes classifying EBV infection more difficult, were recently described.

This serological picture could be seen in the case of past infection with anti EBNA IgG loss or non-appearance, or in acute infections with the early disappearance or delayed onset of anti VCA IgM.

In this study, the analysis by age class showed that the prevalence of isolated anti VCA IgG ranged from 4.5% in the subjects aged 1-10 years to 9% in those aged >60 years. Immunoblotting allowed 18.9% of the cases to be classified as acute and 81.1% as past infections, the latter being observed in about 37% of the patients aged less than 10 years and in 100% of those aged >30 years.

Therefore, in their case series, the presence of isolated anti VCA IgG was associated usually with past infection, particularly among adults. In children aged less than 10 years, it was associated mainly with acute infection but as past infection may be present in about one-third of such children, this possibility should not be overlooked.

In conclusion, on the basis of his symptomatology and serology, our patient had a primary EBV infection with an isolated pattern of anti VCA- IgG antibodies and a late appearance of anti VCA IgM.

**References**


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