

Infectious mononucleosis-like syndrome and gastrointestinal disorders in acute acquired cytomegalovirus infection

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ABSTRACT

Acute acquired cytomegalovirus (CMV) infection occurring in an 18-year-old Brazilian woman is reported. She presented with high fever, diarrhoea, colicky abdominal pain, vomiting, arthralgia and asthenia. CMV IgG Ab (151) and CMV IgM Ab were positive. ELISA was confirmed by immunofluorescence. The patient received symptomatic treatment and recovered fully. It is unusual to have features of infectious mononucleosis-like syndrome and gastrointestinal disorders in the same patient.

Keywords: cytomegalovirus, gastrointestinal disorders, infectious mononucleosis-like syndrome.

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INTRODUCTION

In healthy adults, cytomegalovirus (CMV) infections are mostly asymptomatic. In sporadic cases or very limited outbreaks, CMV pathological manifestations include: colitis⁽¹⁾, gastro-enteritis^(2,3), encephalitis^(4,5), or a mononucleosis-like syndrome without the pharyngitis and the respiratory symptoms^(6,7). Interestingly, in Europe and North America, maternal CMV seropositivity affects sex determination⁽⁸⁾. In immunocompromised hosts, CMV-induced disorders encompass: colitis⁽⁹⁻¹¹⁾, pneumonitis^(12,13), pneumonia⁽¹⁴⁻¹⁶⁾, encephalitis⁽¹⁷⁻²⁰⁾ and retinitis^(21,22). We present a case of acute acquired CMV infection with a very unusual combination of clinical features in the same immunocompetent adult.

CASE REPORT

On October 15, 2003, an 18-year-old Brazilian woman presented with the following complaints: high fever (above 39°C), diarrhoea (soft or watery stools for four days, 3 to 4 times a day but without bleeding), colicky abdominal pain (mainly epigastric cramps), vomiting (once or twice a day), arthralgia and asthenia. These symptoms were experienced over the past four days and were treated with acetaminophen. On October 14, 2003, the patient's

face swelled up, reddened and she also developed an erythematous and pruriginous macular rash on her arms and shoulders. This occurred three days after the fever onset. The itching disappeared after taking dexchlorpheniramine 2 mg.

On the day of consultation, her throat was feeling sore and the rash was the only other remaining symptom. Her mother had gone through a similar clinical picture in the previous days while a viral epidemic was affecting their neighbourhood. The past medical history revealed only immunisation against measles and rubella, allergic bronchitis and no HIV exposure. Clinical examination revealed a woman of normal built with a body mass index of 23.6 and normal vital signs. The pharynx was slightly erythematous. There were bilateral jugulo-maxillary and base of the neck adenopathies. The lymph nodes were swollen, firm, tender and the size of cherry pits. The face, shoulders and upper arms were uniformly erythematous. No splenomegaly was detected.

Laboratory tests done on October 15, 2003 showed: leukocytes 4,100, monocytes 12.1%, atypical mononuclear cells 5.0%, platelets 132,000, and peripheral blood film: few atypical mononuclear cells and mild thrombocytopenia present. Dengue IgM Ab, Dengue IgG Ab, Paul Bunnell (monospot), Toxoplasmosis IgG Ab, and Toxoplasmosis IgM Ab were all negative. CMV IgG Ab (151) and CMV IgM Ab were positive. ELISA was confirmed by immunofluorescence.

Diagnosis of acute acquired CMV infection was made. No treatment was given except for symptomatic drugs, as needed. The follow-up showed a complete resolution of the throat soreness and rash within the next week.

DISCUSSION

The following symptoms, which were found in our patient, are unusual in acute acquired CMV infections: high fever, arthralgia, vomiting, diarrhoea, abdominal pain and a rash. Symptomatic acute acquired CMV infection is considered rare among immunocompetent

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individuals⁽²³⁾. Even in HIV-infected patients, the cumulative incidence of CMV disease (retinitis, encephalitis and pneumonia combined) was 4.5% in a cohort of 3,525 patients studied for 46 months⁽²⁴⁾. However, if systematically screened when symptoms are suggestive, CMV incidence will be much higher⁽²⁵⁾.

The clinical presentation of our case is unusual because it combines the features of a CMV mononucleosis, in which rashes are anecdotal⁽²⁶⁾ with a gastrointestinal infection⁽²⁷⁾, which is rare per se⁽²⁸⁾. Moreover, pharyngitis is an atypical feature, if CMV-related, when compared to its frequency in Epstein-Barr virus mononucleosis⁽²⁹⁾. CMV transmission occurs via sexual contact, breast milk, respiratory droplets and blood transfusion. In immunocompetent hosts, treatment is symptomatic⁽³⁰⁾.

Because of the patient's travelling schedule, repeated serologies, a CMV antigen assay and the isolation of the CMV in urine or throat specimen were not feasible. However, the diagnosis was established with confidence based on the following converging arguments, although each element considered independently cannot lead unequivocally to the diagnosis presented:

- The clinical picture evoking a CMV infection.
- The epidemiological context compatible with a viral illness, particularly, the timing of the neighbourhood outbreak and of the mother's symptoms.
- The haematological results consistent with an acute viral infection, namely: low white cell count, monocytosis and 5% of atypical mononuclear cells.
- The negativity of other common viral and parasitic disease serologies such as: dengue fever, toxoplasmosis, infectious mononucleosis as well as normal transaminases (discarding any viral hepatitis), the up-to-date immunisation against rubella and measles, and the absence of exposure to HIV.
- The CMV serology results: over 10 times the threshold value of positivity for IgG and the positivity of the IgM antibody tests. The specificity of these results was established by the immunofluorescence test for which the serum was treated to remove the rheumatoid factor and the CMV IgG content.
- Studies have suggested that primary CMV infections produce symptomatic diseases whereas reactivations are usually asymptomatic⁽³¹⁾.

Since other modes of transmission can be excluded, the mother had exhibited an analogous symptomatology a few days before and there was

an outburst of a viral disease in the vicinity, we believe that our patient had been contaminated by aerosols.

In conclusion, based on our case study and a review of the literature, we recommend that a routine CMV screening be done not only for patients presenting with an infectious mononucleosis-like syndrome or infectious gastrointestinal disorders of unknown origin but also for patients with both.

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