
Communications

Atypical Infectious Mononucleosis in an Elderly Patient

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Infectious mononucleosis affects primarily young adults and teenagers.¹ It is transmitted by intimate oral contacts^{1,2} and is characterized by clinical evidence of lymphoproliferation such as enlarged lymph nodes and/or hyperplasia of faucial lymphoid tissue with or without pharyngitis.³ This report describes a documented case in a 65-year-old man who had a chronic organic brain syndrome, no recent mouth-to-mouth contact, and no lymphadenopathy or faucial lymphoid hyperplasia throughout the course of illness.

Case Report

D.B., a 65-year-old white retired electrician and widower, was brought to the medical center on April 15, 1981, because of increasing lethargy of three days' duration.

In 1969 the patient accidentally incurred a high-voltage electrical shock that resulted in a hypoxic encephalopathy and a subdural hematoma. The eventual outcome of this accident was a hydrocephalus that required a ventricular shunt, a seizure disorder that required the daily intake of 300 mg of phenytoin and 100 mg of phenobarbital, aphasia, and flexion contracture as well as spasticity of both lower extremities. The patient was also

hypertensive, and was receiving daily doses of triamterene plus hydrochlorothiazide (Dyazide).

Social history revealed that the patient had lived alone and was mostly bedridden. He was cared for by his two sisters and a visiting day nurse, who also administered the anticonvulsive and antihypertensive drugs. Prior to the onset of his present illness, he was mentally alert but poorly responsive.

On physical examination, the patient had a blood pressure of 128/76 mmHg, pulse rate of 60 beats per minute, respiratory rate of 36 per minute, and temperature of 100.4° F. The only abnormal physical findings were lethargy, a craniectomy scar in the right occipital parietal area with a ventricular shunt in place, and flexion contractures of both lower extremities. Lymph nodes in the cervical, occipital, or axillary areas were not palpable. There was no hyperplasia of faucial lymphoid tissues and no pharyngeal injection. Spleen and liver were not palpable.

Neurologic examination revealed a lethargic, elderly man who responded to voice by opening his eyes without looking at the examiner. He followed simple commands but did not carry out complex commands. His vocalizations were unintelligible.

Blood gases were normal, except for a PO₂ of 61 mmHg (normal 75-100 mmHg). Blood electrolytes were within normal ranges, except for minor elevations of sodium (153 mEq/L) and chloride (111 mEq/L). Blood urea nitrogen and glucose were both elevated (58 mg/100 mL and 169 mg/100 mL, respectively). Total protein, bilirubin, creatinine, uric acid, calcium, inorganic phosphorus, and magnesium in the blood were normal. A complete

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blood count revealed a hematocrit of 53 percent, hemoglobin of 17.8 g/100 mL and a mild leukocytosis of 13,200/mm³ (60 percent neutrophils, 33 percent lymphocytes, and 7 percent monocytes). Serum enzyme levels were alkaline phosphatase 178 U/mL (normal 115 U/mL), aspartate aminotransferase 47 U/mL (normal 35 U/mL), creatine kinase 30 U/mL (normal 225 U/mL), gamma glutamyl transpeptidase 340 U/mL (normal 65 U/mL) and lactate dehydrogenase 392 U/mL (normal 220 U/mL). Serum phenobarbital and phenytoin concentrations were 51 and 20 mg/L, respectively (the therapeutic levels for both drugs should be 10 to 20 mg/L, respectively).

Findings consistent with an early right lower lobe pneumonia were seen on chest x-ray examination. Electrocardiogram showed no evidence of myocardial infarction. Computed tomographic head scan revealed evidence of hydrocephalus and cerebral atrophy, which had not changed significantly from a previous examination.

The patient was hospitalized for phenobarbital toxicity, dehydration, and possible aspiration pneumonia. The dosage of phenobarbital was adjusted and intravenous fluid given. Tobramycin and penicillin in therapeutic doses were also given. His leukocyte and differential counts were normal in 24 hours, his lethargy cleared rapidly, but he remained febrile (up to 102° F) despite the antimicrobial treatment. Repeated blood cultures were negative. Lumbar puncture was also negative. There were no localizing signs or symptoms for this prolonged fever. It was on the 11th hospital day that infectious mononucleosis was suspected because of a leukocyte count of 11,700/mm³ and a differential count of 65 percent lymphocytes, many of which were atypical in appearance. The Monospot test was also reactive. He was discharged on May 1, 1981, to be cared for at home, even though he was still febrile (101° F). At the time of discharge, oropharyngeal secretion was positive for the Epstein-Barr virus (EBV) and serum EBV antibody was greater than 1:128 for anti-VCA (viral capsid antigen) and less than 1:1 for anti-EBNA (EB virus-associated nuclear antigen).

Because of elevated serum enzymes (alkaline phosphatase 463 U/mL, aspartate aminotransferase 107 U/mL, creatine kinase 2,475 U/mL, gamma glutamyl transpeptidase 702 U/mL, and lactate dehydrogenase 672 U/mL), a nuclear gall bladder

scan was performed prior to discharge; no evidence of obstruction of the biliary tract was obtained. A repeat electrocardiogram revealed no evidence of myocardial infarction.

On May 8, 1981, the patient was brought back to the hospital because of the persistence of fever and reappearance of lethargy. Significant findings were a temperature of 101° F, pleocytosis (lymphocytes 34 percent), elevated protein (201 mg/100 mL), and normal glucose (75 mg/100 mL) in the cerebrospinal fluid and clinical evidence of dehydration. There was no hyperplasia of faucial lymphoid tissues or pharyngeal injection. Cervical, occipital, and axillary lymph nodes and spleen were not palpable. The patient was readmitted with the provisional diagnosis of dehydration and aseptic meningitis secondary to infectious mononucleosis. He was rehydrated with intravenous fluids. His temperature became normal the next day and remained normal for the next three weeks while awaiting arrangement for custodial care.

On September 30, 1981, his serum EBV antibody titers were greater than 1:128 for anti-VCA and 1:16 for anti-EBNA. Throat gargles collected from his two sisters were negative for EBV.

Comment

Infectious mononucleosis was proven in this patient by the following laboratory findings: absolute lymphocytosis (7,605/mm³) and many atypical lymphocytes on the 14th day after onset, a positive Monospot test on the 14th day, characteristic EBV antibody profile consisting of capsid antibody in high titer and no EBNA (EB virus-associated nuclear antigens) antibody during the acute phase with seroconversion against EBNA several months later,³ and the presence of EBV in his oropharynx. This case is distinctly atypical in that the patient was 65 years old, his medical and social conditions ruled out the possibility of any form of interpersonal relation that resulted in direct mouth-to-mouth contact (his sisters denied ever kissing the patient on his lips), and the clinical manifestations consisted of a prolonged fever (three to four weeks) with mild hepatitis and mild meningitis but without clinical evidence of lymphoproliferation (such as enlarged cervical lymph nodes or faucial lymphoid hyperplasia with or without pharyngitis) at any time in the course of his illness. Indeed, the possibility of infectious

mononucleosis was not suspected for two weeks, during which the patient was given antimicrobial treatment for sepsis. The phenobarbital toxicity might be due to a decrease in the detoxification of the drug by a damaged liver, and this excessive sedation could cause an aspiration pneumonia.

Just how the patient acquired the EBV infection is not known.

Unexplained febrile illness lasting for several days, especially in the aged, is a condition of major concern to both the patient and the physician. This case, however, illustrates the importance of considering infectious mononucleosis in the differential diagnosis of fever of undetermined origin. By determining the Epstein-Barr virus antibody profile, the presumptive diagnosis of current primary EB virus infection can often be made at the first patient visit or at the time of hospital admission.

Infectious mononucleosis need not be an exclusive disease of young adults and teenagers. In a recent EB virus antibody survey of pregnant women living in the Sacramento area, it was found that 3 of 95 (3 percent) subjects 36 to 45 years old had no detectable level of EB virus antibody.⁴ Hence adults, presumably some elderly, are still susceptible to primary EB virus infection.

References

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Accidental Injuries to Children and Youths in Rural Florida

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Accidents are a major health problem in the United States. They cause more than one half of all deaths in persons from ages 1 to 24 years.¹ Each year in the United States 24 million children and youths under 17 years of age are examined and treated for injuries, and 15.5 million days are lost from school, while countless other children are temporarily and permanently disabled as a result of accidents.^{2,3} The three factors influencing the incidence of trauma are the victim, the agent, and the surrounding environment.⁴ Alterations in the environment and agent can effectively reduce the incidence of trauma, but they are often extremely dif-

ficult to affect at a local level (eg, mandatory seat belt legislation, the use of passive seat belt restraints, changes in clothing design to retard burning, or alteration of automobile crashworthiness).

During several years of experience in providing care for children in the rural health clinics established by the Department of Community Health and Family Medicine at the University of Florida College of Medicine, it became apparent that approximately 20 percent of patient visits were related to accidental injuries. Prior to the development of a health promotion program aimed at preventing accidents in children and youths, a four-month survey was performed in three clinics in rural Florida in order to ascertain the nature of and those at greatest risk for accidents. Over a four-month period in 1980 the accidents occurring to children and youths were prospectively observed. The study included the collection of demographic data, the types of injuries that occurred, and the events leading to the occurrence of the accidents.

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