CLINICAL VIGNETTE

Patient with Persistent Night Sweats

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A 55-year-old Caucasian female presented with night sweats for the last 2 months. She had been seen in urgent care one month prior for the same complaint. Initial evaluation included normal CBC diff, CMP and she was told she had possible menopause symptoms and was advised to take acetaminophen as necessary and follow up with PCP. Her ROS was non-significant, specifically, negative for upper respiratory symptoms, cough, chest pain, shortness of breath, weight loss and fever.

She also had no significant past medical history. Her family history was positive for breast cancer in her mother and hyperlipidemia and HTN in her father. Social history was negative for smoking with occasional alcohol use. Her LMP was 2 years ago and she was not taking any medicines. She was married and her partner was not symptomatic.

Her vital signs showed blood pressure of 135/85 mm/hg, pulse 75, temperature 96.5 F, weight 180 lbs, height 175 cm. Her exam was nonsignificant and was negative for lymphadenopathy.

Labs showed normal CBC with diff and WBC 9000, Neutrophils 6200, Lymphocytes 4200, monocytes 1700, Eosinophils 250, Basophils 60. Quantiferon gold and HIV were negative, Sed rate 25 mm/hr, CRP 2.0 mg/l. The metabolic panel showed mildly elevated liver enzymes, AST 75 and ALT 90. Hepatitis panel was negative and urinalysis was normal. After review of chemistries, EBV antibody was added and the Epstein-Barr viral capsid antigen (VCA) returned positive for IgM and IgG.

She was diagnosed with mononucleosis and was advised to stay hydrated with as needed acetaminophen or ibuprofen.

Patient returned for follow up in 4 weeks. She reported continued night sweats. Repeat labs included normal CBC diff and normal CMP. The night sweats continued for another month for a total of 4 months since symptom onset. She never developed fever, sore throat and her exam was negative for lymphadenopathy.

She returned for follow-up 6 months after her first symptoms and reports no more night sweats. Repeated EBV labs included negative IgM capsid antigen and positive IgG.

Discussion

Epstein-Barr virus (EBV) is a widely disseminated herpesvirus that is spread by intimate contact between susceptible persons and EBV shedders. The virus has not been recovered from environmental sources, suggesting that humans are the major reservoir.

Approximately 90 to 95 percent of adults are eventually EBV-seropositive. The peak incidence of infection is reported in the 15- to 24-year age range.[1] Following Infectious Mononucleosis (IM), virus may be shed in salivary secretions at high levels for a prolonged period.[2] Oral shedding persists for a median duration of approximately six months after the onset of illness, although once infected with Epstein-Barr virus (EBV), virus shedding may be intermittent in the oropharynx for decades.[2]

Typical features of IM include fever, pharyngitis, adenopathy, fatigue, and atypical lymphocytosis. A review of over 500 patients found lymphadenopathy was present in all patients, fever in 98%, pharyngitis in 85%, splenomegaly 60%, peri-orbital edema 40%, hepatomegaly 25%, skin rash 6%, and rhinitis 25%. Most patients may experience malaise, anorexia, nausea, headache, chills, cough myalgia, sweats, cough, arthralgia.

Lymphadenopathy peaks in the first week and then gradually subsides over two to three weeks. With other clinical variants, patients may not have pharyngitis or fever. Very young or older adults frequently do not develop the classic clinical syndrome. In a study of patients ages 40 to 78, pharyngitis and myalgia were the most frequent complaints.[3]

Some patients may experience neurologic syndromes including Guillain-Barré syndrome and facial and other cranial nerve palsies.[4]

The most common laboratory finding in association with IM is lymphocytosis, defined as an absolute count >4500/microL or, on peripheral smear, a differential count > 50% The smear may also identify significant atypical lymphocytosis, defined as more than 10% of total lymphocytes.

Reactive heterophile antibodies in a patient with a compatible syndrome are diagnostic of EBV infection.[5] Further testing for specific antibodies to EBV is not necessary for patients with a reactive heterophile antibody as heterophile test results typical-

ly return more quickly. The false-negative rates are highest during the beginning of clinical symptoms and are often negative in infants and children less than four years.

EBV-specific antibodies testing is warranted in patients with suspected IM who have a negative heterophile test. IgM and IgG antibodies directed against viral capsid antigen have high sensitivity and specificity for the diagnosis of IM, IgM levels wane approximately three months later and are a reliable marker of acute infection. IgG antibodies to EBV nuclear antigen (EBNA; a protein expressed only when the virus begins to establish latency) begin to appear 6 to 12 weeks after the onset of symptoms and persist throughout life. Their presence early in the course of an illness effectively excludes acute EBV infection. EBV DNA quantification can be obtained using polymerase chain reaction (PCR) assays on blood or plasma.[6] In a study of university students with acute EBV infection, the severity of illness correlated with blood EBV load.[2] However, this quantitative assessment of EBV viral load is not recommended for immunocompetent patients with suspected EBV infection since it provides no therapeutic guidance.[2]

Primary Epstein-Barr virus (EBV) infections rarely require more than supportive therapy. The combination of acyclovir and prednisone reduced oropharyngeal shedding of the virus but did not affect the duration of symptoms or lead to an earlier return to school or work. Corticosteroids, as well as emergent consultation with an otolaryngologist, are warranted in individuals with impending airway obstruction. Several authors recommend potential resumption of all sport activities, except for strenuous contact sports, no earlier than 21 days after illness onset. Others advocate a universal four-week time frame regardless of activity level.[7]

Most individuals with primary Epstein-Barr virus (EBV) infection recover uneventfully and develop durable immunity. Most acute symptoms generally resolve in one to two weeks, although fatigue and poor functional status can persist for months.[8]

EBV has been associated with a variety of malignancies, particularly lymphoma.

Conclusion

Infectious Mononucleosis is common in younger age groups with the peak age range of 15-24. Our patient was 55 years old and had night sweats for 2 months and had no other symptoms of IM. Our first thought was menopause symptoms but since her LMP was 2 years ago, and we usually expect symptom onset in the first year of menopause, we requested additional labs. The patient did not have lymphadenopathy which has been reported in almost all patients. We believe she may have had transient lymphadenopathy in the first few weeks of the illness but since she was examined 2 months after symptom onset the lymphadenopathy likely resolved. CBC diff was normal but the abnormal liver enzyme prompted to add EBV antibody. Even though IM is a self-limiting disease, the diagnosis helped us find a reason for the night sweats and avoid other unnecessary treatments or testing. The follow-up appointments and labs confirmed the diagnosis and her symptoms eventually resolved.

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