

Introduction

Infectious mononucleosis typically presents with nonspecific symptoms including sore throat, fever, and lymphadenopathy. It is one of the most common human viruses in the world and most people will be infected by the virus at some point during their lifetime (CDC, 2020). Splenic infarction is a rare but serious complication of Epstein-Barr virus (EBV) infection with 19 cases published between 1961 and 2015.¹ The demographic that mononucleosis tends to affect at the highest rates also overlaps with the time period in which adolescent and young adult cancers begin to arise. As such, symptoms such as lymphadenopathy, fatigue, and weight loss in a teen or young adult can lead to confusion as to if an infectious or malignant cause may be underlying the symptoms. New thrombosis would most commonly be expected to be seen in a case of malignancy rather than in a case of a community acquired infectious disease, particularly in a patient who had multiple negative heterophile antibody tests.

Figure 1. CT abdomen and pelvis with contrast demonstrating splenic infarct



Case Presentation

A 19-year-old female with a history of hypothyroidism presented from an outside hospital with two weeks of anorexia, 20-pound unintended weight loss, fevers, and abdominal pain. She was found to have a 2 cm wedge-shaped splenic infarct on CT as well as bilateral inguinal lymphadenopathy. Heterophile testing had been negative twice and the patient reported a history of a “strep infection” two months prior to admission which was treated with ciprofloxacin. The patient reported a history of mononucleosis in childhood but stated her current symptoms were different from her previous presentation. She denied any history of abdominal trauma.

On exam, the patient was well-appearing and had no pharyngeal exudate or erythema. Her right and left anterior cervical chains were tender and mildly enlarged with non-discrete, soft, mobile nodes. Her abdomen had voluntary guarding with epigastric and left upper quadrant tenderness as well as splenomegaly 2 cm below the costal margin. Bilateral inguinal lymphadenopathy was also present.

Laboratory investigations revealed a mild transaminitis, acute kidney injury, and a normal white blood cell count but increased reactive lymphocytes (17%) and an elevated LDH (513). The patient underwent vascular studies including CT angiography of the chest, echocardiogram, and lower extremity dopplers to evaluate for potential thromboembolic sources; all of these studies were negative. Multiple sets of blood cultures and repeat heterophile antibody testing were negative. HIV, CMV, Lyme, ANA, APL, beta-2 glycoprotein, and anticardiolipin antibodies were negative. During the hospitalization, the patient’s EBV IgM came back as positive.

The patient initially had significant difficulty with eating, but this resolved with sufficient pain control. She remained intermittently febrile throughout the hospital stay likely due to her splenic infarct.

Conclusions

Splenic infarcts are a rare complication of infections such as CMV, EBV, Lyme disease, and Babesiosis.² Splenic infarcts, however, are seen more frequently in hypercoagulable states, myeloproliferative disorders, and malignancy such as leukemia or lymphoma. Given the patient’s age, unintended weight loss, lymphadenopathy, elevated reactive lymphocytosis and LDH, as well as multiple negative heterophile antibody tests, malignancy was high on the differential. This is a case in which EBV was the culprit in causing a splenic infarct, illustrating the varied nature in which infectious mononucleosis can present and how closely it can mimic the presentation of malignancy.

This case also highlights the insensitivity of heterophile antibody testing which can often be falsely negative in up to 25% of patients in the first week of illness and up to 10% of patients in the second week of illness.³ It is also important to note that false positives are possible in cases of leukemia, lymphoma, pancreatic cancer, SLE, HIV and rubella.³ This case illustrates that clinical acumen and ordering of appropriate testing are key to uncovering a patient’s underlying pathology.

References

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