

Interpreting Serology Tricky in Epstein-Barr Mono

Evaluating EBV Infection Based on Serology Results

Status of Infection	Heterophile Antibody	IgM VCA	IgG VCA	Epstein-Barr Nuclear Antigen
Acute	+	+	+	-
Nearly Resolved	+/-	+/-	+	-
Resolved	-	-	+	+

Source: Dr. Long

BY ROBERT FINN
San Francisco Bureau

PORTLAND, ORE. — It's easy to misinterpret the results of serology tests for Epstein-Barr virus, so these results should not substitute for clinical judgment in suspected cases of Epstein-Barr mononucleosis in children, Sarah S. Long, M.D., said at a conference sponsored by the North Pacific Pediatric Society.

"You do laboratory tests to confirm

your clinical suspicion, not to go fishing," said Dr. Long of Drexel University, Philadelphia.

"If you apply [these tests] to populations that are at low pretest probability of having the disease, most of your results will be false positives."

And in the specific case of Epstein-Barr virus (EBV), some of the serology results will remain positive for the rest of the patient's life, long after the clinical syndrome has resolved.

Although some patients believe that they have a chronic EBV infection, often it's because they test positive for these antibodies, and the physician can provide reassurance that the antibodies are an indication of a resolved, not a chronic, infection.

Serology is not always necessary when clinical signs and symptoms are strongly suggestive of EBV mononucleosis, Dr. Long said.

"If you have a 16-year-old with exudative pharyngitis, you get a CBC and you've got 30% atypical lymphocytosis, don't go

any further," she said. "He's got EBV mononucleosis and you're home free and can predict the rest of it. You don't need a heterophile [antibody test], you don't ever want to follow up if that test ever becomes negative, and you don't need specific serology."

On the other hand, one shouldn't turn a blind eye to the hemoglobin, neutrophil, and platelet counts. Patients with thrombocytopenia or neutropenia in addition to lymphocytosis may have leukemia.

Of the four serology tests, the Epstein-Barr nuclear antigen (EBNA) test can be the most misleading. The virus expresses nuclear antigen only when it becomes latent, and after that, the patient will be EBNA positive for the rest of his or her life.

Therefore, a positive EBNA means that the patient does not currently have EBV mononucleosis.

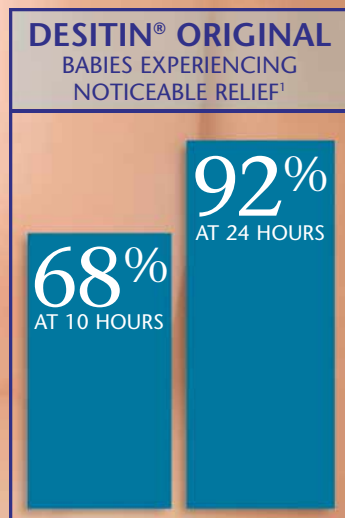
The way to remember this, Dr. Long suggested, is to think of the acronym EBNA as standing for "Epstein-Barr not applicable."

In a patient with acute EBV mononucleosis, the heterophile antibody test will be positive, as will tests for IgM viral capsid antigen (VCA) and IgG VCA. EBNA will be negative.

When the mononucleosis is on its way toward resolution, the heterophile antibody and the IgM VCA may be positive or negative. IgG VCA will be positive (and will remain so for life), but EBNA still will be negative.

Finally, once the mononucleosis has resolved, heterophile antibody and IgM VCA will both be negative, while IgG VCA and EBNA will both be positive. ■

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