Clinical Case Study

Interpretation of HIV Serologic Testing Results

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[3] Nonstandard abbreviations: WB, western blot; NAT, nucleic acid testing.

CASE

A 33-year-old male patient visited the outpatient clinic at Brigham and Women's Hospital for a routine follow-up for obesity, obstructive sleep apnea, allergic rhinitis, and depression. He was maintained on a nocturnal continuous positive airway pressure device, loratadine, duloxetine, and fluticasone nasal spray. He was a resident of Boston and had not traveled outside the country. He denied intravenous drug use or high risk sexual behavior, and he had not received any blood products. He had received his most recent influenza vaccine about 6 months earlier. He was screened for type 2 diabetes and hyperlipidemia. As a part of routine clinical care, he was also offered HIV screening in accordance with the current CDC recommendations *(1)*. The HIV assay (HIV 1/O/2 Enhanced, EHIV), which was performed on the ADVIA Centaur analyzer (Siemens Healthcare Diagnostics), yielded a reactive result. As per the assay protocol developed by the manufacturer, the initially reactive sample was retested in duplicate after centrifugation; both results were reactive. The positive screen was followed up with a confirmatory western blot (WB)[3] analysis, which yielded an indeterminate result. The presence of an isolated p24 band in the WB (GS Western HIV-1; Bio-Rad Laboratories) was of concern regarding possible early HIV seroconversion.

Questions to Consider
• What factors are known to cause false-positive HIV serologic test results?
• What factors are known to cause an indeterminate WB result?
• What further testing or clinical history would be of help in evaluating a patient with an indeterminate WB result?

References

1. Branson BM, Handsfield HH, Lampe MA, Janssen RS, Taylor AW, Lyss SB, Clark JE. Revised recommendations for HIV testing of adults, adolescents, and pregnant women in health-care settings. MMWR Recomm Rep 2006;55(RR-14):1–17.

Final Publication and Comments

The final published version with discussion and comments from the experts will appear in the October 2010 issue of *Clinical Chemistry.* To view the case and comments online, go to http://www.clinchem.org/content/vol56/issue10 and follow the link to the Clinical Case Study and Commentaries.

DOI: 10.1373/clinchem.2009.139535 Copyright © 2010 American Association for Clinical Chemistry

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