Infective Endocarditis: Diagnostic Testing for Identification of Microbiological Etiology

This algorithm is intended for use in patients with clinical and/or echocardiographic findings suggestive of infective endocarditis, based on the modified Duke criteria.

1. Blood cultures
   - If surgical excision of valve performed
     - PATHC / Pathology Consultation
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2. Directed testing based on histopathology findings
   - Acute inflammation ± microorganisms
     - BBPS / Broad Range Bacterial PCR and Sequencing, Varies
   - Chronic inflammation with macrophage predominance
     - PAS-D histopathology stain
   - No evidence of inflammation or microorganisms
     - Consider noninfectious etiologies

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1 Per American Heart Association, European Society of Cardiology, and British Society for Antimicrobial Chemotherapy guidelines, 2 (or more) blood cultures should be positive for a typical microorganism consistent with infective endocarditis (e.g., viridans group streptococci, Streptococcus galactosidas, HACEK group bacteria, Staphylococcus aureus, community-acquired Enterococcus species in the absence of a primary focus) to define a positive result.

2 C. burnetii anti-phase IgG antibody titer ≥1:800 is considered indicative of C. burnetii endocarditis.

3 The sensitivity of T. whipplei PCR from blood in endocarditis is unknown; a negative result should not be used to rule out T. whipplei endocarditis.

4 Histologic examination is used to evaluate for infectious and noninfectious etiologies and correlate with microbiology test results.

5 If surgery is not performed, consider testing for noninfectious etiologies.

6 Consider other microorganism-specific PCR such as MHRP / Mycoplasma hominis, Molecular Detection, PCR, Varies

8 PAS-D, periodic acid Schiff with diastase. Macrophages infected with T. whipplei will stain PAS positive following diastase digestion. Specialty stains are ordered as appropriate by the reviewing pathologist.