Conjunctivitis Testing

AMERICAN ACADEMY OF OPHTHALMOLOGY

Published the Conjunctivitis Preferred Practice Pattern in 2011, which can be accessed online at http://one.aao.org/CE/PracticeGuidelines/PPP_Content.aspx

Diagnostic Tests

Most cases of conjunctivitis can be diagnosed on the basis of history and examination. However, in some cases additional diagnostic tests are helpful.

Viral Diagnostic Tests

Viral cultures are not routinely used to establish a diagnosis. A rapid, in-office immunodiagnostic test using antigen detection is available for adenovirus conjunctivitis. In a study of 186 patients with acute conjunctivitis, this test had a sensitivity of 88% to 89% and a specificity of 91% to 94%.\textsuperscript{33} Immunodiagnostic tests may be available for other viruses, but these are not validated for ocular specimens. Polymerase chain reaction (PCR) may be used to detect viral deoxyribonucleic acid. Availability will vary depending on laboratory policy.


AMERICAN ACADEMY OF PEDIATRICS

Published the Red Book in 2012, which can be accessed online at http://aapredbook.aappublications.org

Diagnostic Tests

The preferred methods for diagnosis of adenovirus infection include cell culture, antigen detection, and DNA detection. Adenoviruses associated with respiratory tract disease can be isolated from pharyngeal and eye secretions and feces by inoculation of specimens into susceptible cell cultures. A pharyngeal or ocular isolate is more suggestive of recent infection than is a fecal isolate, which may indicate either recent infection or prolonged carriage. Rapid detection of adenovirus antigens is possible in a variety of body fluids by commercial immunoassay techniques, including direct fluorescent assay. These rapid assays can be useful for diagnosis of respiratory tract infections, ocular disease, and diarrheal disease. Enteric adenovirus types 40 and 41 usually cannot be isolated in standard cell cultures.
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Rationale
Although most conjunctivitis can be diagnosed on history and physical examination as infectious, the nature of the infectious agent, a virus or bacteria, is often difficult to determine. In-office testing for adenovirus may assist in establishing a correct diagnosis, but in some unusual cases and in patients unresponsive to treatment, special tests may be indicated.

Evidence
A prospective, masked clinical trial of a 10-minute in-office immunoassay for detecting adenovirus conjunctivitis showed a sensitivity of 89% and specificity of 94% compared to PCR, whereas viral cell culture showed a sensitivity of 91% and specificity of 100%.

References

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