TAKE-HOME MESSAGE

In teens and young adults (<26 years) with sore throat, the likelihood of mononucleosis is increased with lymphadenopathy (posterior cervical, axillary, or inguinal), palatine petechiae, splenomegaly, and atypical lymphocytosis.

What Elements Suggest Infectious Mononucleosis?

EBEM Commentators
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Results

Accuracy of clinical findings for the diagnosis of mononucleosis.

<table>
<thead>
<tr>
<th>Clinical Finding</th>
<th>Number of Studies</th>
<th>Sensitivity (95% CI)</th>
<th>Specificity (95% CI)</th>
<th>Positive LR (95% CI)</th>
<th>Negative LR (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Palatine petechiae</td>
<td>1,1</td>
<td>0.25–0.27</td>
<td>0.95</td>
<td>5.3</td>
<td>1.0</td>
</tr>
<tr>
<td>Posterior cervical lymphadenopathy</td>
<td>2,1</td>
<td>0.64</td>
<td>0.87</td>
<td>3.1</td>
<td>0.65</td>
</tr>
<tr>
<td>Inguinal or axillary lymphadenopathy, or both</td>
<td>2,1</td>
<td>0.23</td>
<td>0.82–0.91</td>
<td>3.0–3.0</td>
<td>0.57–0.81</td>
</tr>
<tr>
<td>Splenomegaly</td>
<td>2,1</td>
<td>0.26</td>
<td>0.71–0.99</td>
<td>1.9–6.6</td>
<td>0.65–0.94</td>
</tr>
<tr>
<td>Atypical lymphocytes ≥10%</td>
<td>0.3</td>
<td>0.66</td>
<td>0.92</td>
<td>11</td>
<td>0.37</td>
</tr>
</tbody>
</table>

CI, Confidence interval.

*R Number of studies with data to calculate sensitivity and specificity. If there were only data from a single study, the point estimate and a 95% CI were presented. If there were 2 studies, ranges were presented. For 3 studies, univariate meta-analysis data were presented.

Authors screened 670 abstracts and selected 117 for full-text review, of which 11 met inclusion criteria. A total of 4,769 patients were included, of whom 2,345 had serologically confirmed mononucleosis. Three studies were prospective cohort studies, 3 were retrospective laboratory studies without clinical information, and 5 were case series with confirmed mononucleosis. Of the studied elements, atypical lymphocytes had the greatest positive LR (Table). None of the examined elements were sufficient to exclude the diagnosis.

Commentary

Infectious mononucleosis is a disease of primarily teenagers and young adults, occurring in approximately 7% with sore throat. Although it is a viral illness, making the diagnosis of mononucleosis is important because it allows clinicians to guide symptomatic treatment while avoiding unnecessary antibiotics, educate patients on limiting physical activities because of the risk of splenic injury in the setting of splenomegaly, and offer a realistic prognosis because...
symptoms may last for several weeks.

Determining who has mononucleosis can be challenging because symptoms of sore throat and malaise are nonspecific. This review, although limited by the quality and age of the studies, offers clinicians useful guidance. The presence of lymphadenopathy (posterior cervical, axillary, and inguinal), palatine petechiae, splenomegaly, and atypical lymphocytosis significantly increases the likelihood of mononucleosis, whereas the absence of any lymphadenopathy reduces the likelihood. The authors advocate the use of the WBC count as an adjunct to clinical signs and symptoms, especially early in the disease process because the false-negative rate for the antibody test can be approximately 25%.4 The presence of a sore throat and a WBC count with greater than 50% lymphocytosis and greater than 10% atypical lymphocytes in a teen or young adult patient increases the likelihood of mononucleosis, with a positive predictive value of 73%.

In summary, emergency clinicians who are considering the diagnosis of mononucleosis should look for lymphadenopathy (posterior cervical, axillary, and inguinal), palatine petechiae, splenomegaly, and atypical lymphocytosis to improve diagnostic accuracy and guide appropriate management.

Editor’s Note: This is a clinical synopsis, a regular feature of the Annals’ Systematic Review Snapshots (SRS) series. The source for this systematic review snapshot is: Ebell MH, Call M, Shinholser J, et al. Does this patient have infectious mononucleosis? the rational clinical examination systematic review. JAMA. 2016;315:1502-1509.


Michael Brown, MD, MSc; Jestin N. Carlson, MD, MS, and Alan Jones, MD, serve as editors of the SRS series.