Therapeutics

Review: Diagnostic testing does not reassure patients with low probability of serious disease

Clinical impact rating: ★★★★★☆

Question

In patients with low probability of serious disease, does diagnostic testing reduce anxiety?

Review scope

Included studies compared initial diagnostic testing in primary or secondary care with no initial testing in adults ≥ 18 years of age who had symptoms and clinical features that indicated low probability of serious disease. Studies that took place in tertiary care with high prevalence of serious conditions were excluded. Tests included imaging, endoscopy, and cardiac testing. Outcomes included illness concern, symptom persistence, anxiety, and subsequent primary care visits.

Review methods

MEDLINE, EMBASE/Excerpta Medica, Cochrane Central Register of Controlled Trials, PsycINFO, CINAHL, ProQuest Dissertations (all to Dec 2011), and reference lists of systematic reviews were searched for randomized controlled trials (RCTs) published in peer-reviewed journals. 14 RCTs (n = 3828, mean age 32 to 62 years, 26% to 78% men) with long-term follow-up from 3 weeks to 18 months met the selection criteria. 8 trials involved diagnostic testing for dyspepsia; 3 involved radiography for back pain; and 1 each assessed chest pain, headache, and palpitations. 8 RCTs reported adequate randomization sequence generation, and 8 reported adequate allocation concealment.

Main results

Meta-analysis showed that diagnostic testing did not reduce illness concern, symptom persistence, or anxiety more than no testing (Table). Diagnostic testing did not influence the frequency of return visits based on the 11 trials that assessed this.

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Follow-up</th>
<th>Number of trials (n)</th>
<th>Odds ratio (95% CI) at 3 wk to 18 mo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Illness concern</td>
<td>≤ 3 mo</td>
<td>2 (333)</td>
<td>0.90 (0.51 to 1.59)</td>
</tr>
<tr>
<td></td>
<td>&gt; 3 mo</td>
<td>3 (326)</td>
<td>0.87 (0.55 to 1.39)</td>
</tr>
<tr>
<td>Symptom persistence</td>
<td>≤ 3 mo</td>
<td>6 (1602)†</td>
<td>0.92 (0.60 to 1.41)</td>
</tr>
<tr>
<td></td>
<td>&gt; 3 mo</td>
<td>10 (3084)†</td>
<td>0.99 (0.85 to 1.15)</td>
</tr>
<tr>
<td>Anxiety</td>
<td>≤ 3 mo</td>
<td>2 (316)</td>
<td>0.06 (−0.16 to 0.28)</td>
</tr>
<tr>
<td></td>
<td>&gt; 3 mo</td>
<td>2 (302)</td>
<td>0.21 (−0.02 to 0.44)</td>
</tr>
</tbody>
</table>

*CI defined in Glossary.
†Information provided by author.

Conclusion

Diagnostic testing does not reassure patients with low probability of serious disease compared with no testing.

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For correspondence: Dr. C. Burton, University of Aberdeen, Aberdeen, Scotland, UK. E-mail c.burton@abdn.ac.uk.

Commentary

The review by Rolfe and Burton concludes that early diagnostic testing does not reassure patients who are at low risk for serious disease. The heterogeneous nature of the trials should temper the conclusions that are stated in the abstract.

A limitation of the review is that sources of heterogeneity were not explored. Only the trial by Howard and colleagues (1) controlled for anxiety and found that, among anxious patients with headaches, early imaging reduced health care costs. Heterogeneous short-term reduction in symptoms found in some trials of dyspepsia may be due to variable approaches to Helicobacter pylori management and variable provision of endoscopy to control patients.

In the editorial that accompanies Rolfe and Burton’s analysis, Kroenke (2) appropriately concludes that “one might order diagnostic tests selectively based on patient factors such as greater illness anxiety, symptom persistence, or complexity” and “we should not automatically assume most patients want a test.” In addition to the worried well, early testing may theoretically help some somatizers convert to “facultative somatizers” who can psychologize the source of their symptoms (3).

As important as the meta-analysis itself is the brief discussion by the authors of 3 trials of educational interventions to increase patients’ acceptance of negative results: All 3 trials showed benefit. This meta-analysis highlights the limitations of routine early testing but does not exclude benefit in patients with more worry. If we test these patients, we should educate them in advance about expected results.

Robert G. Badgett, MD
University of Kansas School of Medicine–Wichita
Wichita, Kansas, USA

References