

Review: Prompt endoscopy is not a cost-effective strategy for initial management of dyspepsia

Ford AC, Qume M, Moayyedi P, et al. *Helicobacter pylori* "test and treat" or endoscopy for managing dyspepsia: an individual patient data meta-analysis. *Gastroenterology*. 2005;128:1838-44.

Clinical impact ratings: GIM/FP/GP ★★★★★☆☆ Gastroenterology ★★★★★☆☆

QUESTION

In patients with dyspepsia, how cost-effective is initial management with prompt endoscopy compared with a test-and-treat approach for inducing resolution of symptoms?

METHODS

Data sources: A randomized controlled trial (RCT) register established by the Dyspepsia Trials Collaborators' Group supplemented by searches of the Cochrane database of RCTs and MEDLINE (all up to December 2003). **Study selection and assessment:** RCTs that compared a prompt endoscopy strategy with a test-and-treat approach for the initial management of dyspepsia in adults in primary care or on first referral to secondary care, and reported relevant outcomes.

Outcomes: Total dyspepsia symptom score, presence of dyspepsia, cost (in 2003 U.S. dollars), and incremental net benefit at 12 months.

MAIN RESULTS

5 RCTs ($n = 1924$) (mean age 41 y, 50% men) met the selection criteria. Effects of the intervention on dyspepsia symptoms were

pooled using meta-analysis of individual patient data. The groups did not differ for total dyspepsia symptom scores (Table). However, fewer persons in the endoscopy group than in the test-and-treat group still had symptoms of dyspepsia at 12 months (Table). Mean total cost per patient was greater in the endoscopy group than in the test-and-treat group (Table). At a willingness to pay of \$1000 per patient who is free of dyspepsia symptoms, the incremental net benefit was lower in the endoscopy group than in the test-and-treat group. Prompt endoscopy became cost-effective only when

the willingness to pay per patient who is symptom-free was increased to \$180,000.

CONCLUSION

In patients with dyspepsia, initial management with prompt endoscopy is slightly more effective but not cost-effective compared with a test-and-treat approach for inducing resolution of symptoms.

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Initial management with prompt endoscopy vs test-and-treat in patients with dyspepsia at 12 months*

Outcomes	Standardized mean difference (95% CI)
Total dyspepsia symptom scores	-0.11 (-0.28 to 0.07)
	RRR (CI)
Presence of symptoms	5% (1 to 8)†
	Weighted mean difference (CI)
Additional cost/patient of prompt endoscopy (2003 U.S. dollars)	\$389 (276 to 502)‡

*RRR and CI defined in Glossary.

†Significant difference favors prompt endoscopy.

‡Significant differences favor test-and-treat.

COMMENTARY

The management of dyspepsia remains controversial, although the most recent U.S. guidelines continue to recommend *Helicobacter pylori* test-and-treat over prompt endoscopy in patients without alarm features (1, 2). Ford and colleagues provide the first individual patient data meta-analysis of 5 management trials (2 of which remain unpublished in full). Using individual patient data removed the issue of heterogeneity that confounds the interpretation of many meta-analyses. The results robustly support a test-and-treat strategy in terms of cost-effectiveness, even though the cost for endoscopy used in the model was low (\$450). It seems that fewer endoscopies in the test-and-treat group and increased proton-pump inhibitor consumption in the prompt endoscopy group may drive the cost differences. While willingness to pay to become free of dyspepsia is arguably an artificial construct, in terms of combining data this represents a clinically interpretable endpoint.

It is notable that the rate of symptom resolution was significantly greater in the endoscopy group than in the test-and-treat group, although the difference was small and arguably not clinically relevant. However, it is unclear why endoscopy should have any additional bene-

fit. A weakness is that U.S. cost data were applied, but none of the studies were done in the United States.

The *H. pylori* test-and-treat strategy was equally good in those with predominant epigastric pain or heartburn, suggesting that distinguishing management of dyspepsia from gastroesophageal reflux disease may be somewhat artificial (3). While this analysis cannot capture other dimensions of prompt endoscopy that may be of value, including reassurance to patient and physician, overall, test-and-treat should remain the standard of care for management of uninvestigated dyspepsia.

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References

1. Talley NJ, Moayyedi P, Vakil N. AGA Technical Review: evaluation of dyspepsia. *Gastroenterology*. 2005 (in press).
2. Talley NJ, Vakil N. Guidelines for the management of dyspepsia. *Am J Gastroenterol*. 2005;100:2324-37.
3. DeVault KR, Castell DO. Updated guidelines for the diagnosis and treatment of gastroesophageal reflux disease. *Am J Gastroenterol*. 2005;100:190-200.