Economics

Helicobacter pylori testing and endoscopy were less cost-effective than usual management for patients with dyspepsia

Delaney BC, Wilson S, Roalfe A, et al. *Randomised controlled trial of Helicobacter pylori testing and endoscopy for dyspepsia in primary care*. *BMJ* 2001 Apr 14;322:898–901.

QUESTION: In patients who had had dyspepsia for > 4 weeks, are testing and endoscopy as cost-effective as usual management for dyspepsia?

Design

Cost-effectiveness analysis from a health service perspective of a randomised (allocation concealed*), unblinded,* controlled trial with 18 months of follow up.

Setting

31 primary care centres in the UK.

Patients

478 patients (mean age 37 y, 57% men) who had had dyspepsia (epigastric pain or heartburn with or without nausea and bloating) for > 4 weeks. Exclusion criteria included patients who had had endoscopy or a positive result on barium meal examination in the previous 3 years or were unable to give informed consent. 99% of patients completed the trial.

Intervention

Patients were allocated to testing (Helisal test), and endoscopy (n=285) or usual management (n=193). Endoscopies on patients with positive results on the Helisal test were done according to usual practice at open access services at 6 local hospitals. Patients with negative results received empirical acid-suppressing drugs. Patients in the control group received the usual management strategy used by their general practitioner.

Main cost and outcome measures

Change in symptoms (Birmingham dyspepsia symptom score) and quality of life (measured as regards to pain, emotion, and social function by questionnaire) at 18 months were the main outcome measures. Costs associated with managing dyspepsia included attendance at accident and emergency departments, barium meal examination, testing for *campylobacter*-like organisms, endoscopy, and *H pylori* testing. Costs were estimated in British pounds.

Main results

In both trial groups, a reduction in symptoms and an increase in quality of life were seen. The groups did not differ in the magnitude of improvement (table). Mean total costs per patient were £368 for testing and endoscopy, and £253 for usual management.

Conclusion

In patients who had had dyspepsia for > 4 weeks, testing and endoscopy were less cost-effective than usual management for dyspepsia.

*See glossary.

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Testing and endoscopy (study group) v usual management (control group) for dyspepsia

Outcomes at 18 months	Mean change from baseline		Difference in mean change from baseline (95% CI)
	Study group	Control group	
Symptoms	3.8	3.5	0.3 (–0.9 to 1.5)
Quality of life			
Pain	16.9	14.3	2.5 (–3.5 to 8.6)
Social	9.6	10.3	0.7 (–3.9 to 5.2)
Emotion	5.4	7.2	1.8 (–2.8 to 6.4)

COMMENTARY

Management of dyspepsia in primary care remains controversial. Prompt upper endoscopy remains the “gold standard”, but it is costly and has limited availability. Some guidelines (eg, the British Society of Gastroenterology) have recommended non-invasive testing for *H pylori* followed by endoscopy in those with infection to identify peptic ulcer disease and appropriately target treatment. The trial by Delaney *et al* indicates, contrary to expectation, that this approach is not as cost-effective as usual management.

Increased costs in the testing and endoscopy group were driven primarily by endoscopy; the rate of endoscopy in the usual treatment group was about half that in the study group, with similar outcomes. The efficacy of testing and endoscopy may have been diluted by contamination with patients who had gastroesophageal reflux disease and with the use of an office whole-blood serological *H pylori* test, which is less accurate. Indeed, although more ulcers were detected in the testing and endoscopy group (7% v 2%), the rate was lower than expected (20% to 60%).

Lassen *et al*¹ reported that non-invasive *H pylori* testing followed by eradication treatment had an outcome similar to prompt endoscopy, although endoscopy had a slight advantage with respect to satisfaction. Other data suggest that “test and treat” has the advantage of cost savings compared with endoscopy and is well accepted.² Hence, test and treat is currently widely recommended. However, in younger populations in whom the background prevalence of *H pylori* and peptic ulcer is relatively low, a short empirical trial of acid-suppression treatment (eg, using a proton pump inhibitor) may be the most cost-effective management approach because serious disease will rarely be masked. Head to head management trials are currently in progress to test this hypothesis.

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- 1 Lassen AT, Pedersen FM, Bytzer P, *et al*. *Helicobacter pylori* test-and-eradicate versus prompt endoscopy for the management of dyspeptic patients: a randomised trial. *Lancet* 2000;356:455–60.
- 2 Delaney B, Moayyedi T, Deeks J, *et al*. The management of dyspepsia: a systematic review. *Health Technol Assess* 2000;4:1–189.