



Title	The Efficacy of Proton Pump Inhibitors in Adults with Functional Dyspepsia
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Reference	CCOHTA Technology Report, Issue 22, January 2002. ISBN 1-894620-29-1 (print); ISBN 1-894620-30-5 (online): http://www.ccohta.ca/ccohta_production/entry_e.html

Aim

- To determine the efficacy of proton pump inhibitors (PPI) in reducing symptoms in adults with functional dyspepsia compared with placebo, prokinetic agents, and H₂-antagonists
- To determine the safety of PPIs
- To determine if the effect of PPIs differs between symptom subgroups and in H. pylori positive patients with functional dyspepsia.

Conclusions and results

Three published randomized controlled trials and three abstracts satisfied the inclusion criteria: one study was of high quality, two of moderate quality, and the three abstracts were of low quality. All six studies compared PPI treatment with placebo, for a total of 2368 patients. One study also compared PPIs with an H₂- antagonist. No studies comparing a PPI with a prokinetic agent were identified.

Meta-analysis demonstrated that PPIs, when compared with placebo, reduce symptoms in functional dyspepsia and do not have significant side effects. No significant heterogeneity was observed across studies in either "excellent" outcome or combined "good-to-excellent" response. Sensitivity and subgroup analyses were limited by lack of data. The relationship between H. pylori status and PPIs in functional dyspepsia remains unclear. No significant difference was observed for "excellent" or combined "good-to-excellent" outcomes between PPIs and H₂-antagonists. PPIs produced no significant side effects.

Recommendations

- Exercise caution in comparing the efficacy of PPIs with the efficacy of prokinetic agents and H₂-antagonists, given the lack of valid trials directly comparing these three agents.

Methods

A comprehensive literature search of online databases was supplemented by manually searching reference lists from retrieved articles and hand searching for recent articles from two journals, *Gastroenterology* and *Gut*. Pharmaceutical manufacturers were contacted to identify further unpublished materials. The outcomes of randomized, controlled trials comparing PPIs with placebo, motility agents or H₂-antagonists in adults diagnosed with functional dyspepsia were simplified within the meta-analysis to either "experiencing no symptoms" (excellent relief of dyspepsia) or "experiencing a significant improvement in symptoms" (combined good-and-excellent relief of dyspepsia).

Further research/reviews required

While prokinetic agents and H₂-antagonists may appear more efficacious based on other meta-analyses, direct comparison trials are needed to provide conclusive evidence. Further randomized controlled trials are needed to compare PPIs, other prokinetic agents (such as domperidone), and H₂-antagonists in both H. pylori positive and negative patients with functional dyspepsia.