

Impact of Guidelines for Peptic Ulcer Disease Management

Brock J, Sauaia A, Ahnen D, et al. Process of care and outcomes for elderly patients hospitalized with peptic ulcer disease: results from a quality improvement project. *JAMA* 2001;286:1985–93.

Study Overview

Objective. To determine if published guidelines for the management of peptic ulcer disease (PUD) changed the care of hospitalized elderly and improved rates of rehospitalization for PUD and all-cause mortality.

Design. Retrospective study of 2 cohorts of patients admitted to participating hospitals before and after the intervention.

Setting and participants. Between 1995 and 1997, 5 states (Colorado, Connecticut, Georgia, Oklahoma, and Virginia) implemented a quality improvement program (QIP) to improve care of PUD. 4292 consecutive Medicare beneficiaries older than 65 years discharged from a hospital with a primary diagnosis of PUD were studied at baseline in 1995 and in 1997. Patients who died during the initial hospitalization, left the hospital against medical advice, or transferred to another facility were excluded.

Main outcomes measures. Process of care outcomes were obtained by medical record abstraction. Charts were reviewed for information about screening for *Helicobacter pylori*; treatment of patients known to be infected with *H. pylori*; screening for NSAID use; and counseling of risk and benefits of NSAID use. 1-year readmission rate for PUD and 1-year mortality were measured in the Colorado cohort by examining Medicare administrative claims data.

Main results. Records from 2644 hospitalizations in the baseline period and 1648 hospitalizations in the follow-up period were reviewed. Screening for *H. pylori* infection increased in all 5 states (12% to 19%; $P < 0.001$). Treatment of *H. pylori* infection increased in all 5 states, but the increase was significant only in Colorado (9%; $P = 0.002$) and Oklahoma (13%; $P = 0.001$). Screening and counseling for NSAID use was no different between the 2 periods. In the Colorado cohort, treatment for *H. pylori* was not associated with a reduction in rehospitalization or mortality at 1 year. These outcomes were not predicted by treatment for *H. pylori* even after adjusting for ulcer location. Counseling about NSAID use was associated with a significant reduction in readmission for PUD (odds ratio [OR], 0.47 [95%

confidence interval [CI], 0.22 to 0.99]) and with overall mortality (OR, 0.44 [95% CI, 0.26 to 0.75]).

Conclusion. The QIP for elderly patients with PUD resulted in increased screening for and treatment of *H. pylori* infection, but there was no change in counseling about the risks of NSAID use.

Commentary

This retrospective study of guideline implementation in 5 states makes important observations and raises intriguing questions about the care of PUD in elderly patients. The authors found that screening for and treatment of *H. pylori* infection increased following guideline publication. Screening and counseling rates for NSAID use were not significantly changed. The changes were partially attributed to the QIPs within each studied state. As there was no concurrent control, other educational and quality improvement programs may be responsible for the observed changes. Furthermore, the outcomes were measured within inpatient records. All of the recommended practices are commonly performed in the outpatient setting. As a result, the authors may be reporting a failure to document appropriate care rather than actual substandard care for PUD.

The second objective of the study, to measure rehospitalization for PUD and mortality rates, had several surprising findings. Failure to counsel patients with PUD about NSAID use was strongly associated with both readmission and death. As discussed in an accompanying editorial [1], it is possible that patients with a better prognosis were preferably counseled. Further investigation with a prospective randomized trial is warranted. Increased screening for *H. pylori* had no significant effect on rehospitalization and mortality. However, *H. pylori* was detected in only 26% of screened patients in the Colorado cohort, and this low prevalence may have led to insufficient power to detect a rehospitalization or mortality benefit.

Applications for Clinical Practice

Implementing guidelines to improve care of PUD contributes to increased screening and treatment of *H. pylori*. Counseling about the risks of NSAID use is associated with decreased morbidity and mortality in elderly patients and

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should be systematically conducted in patients with peptic ulcer disease.

—Review by Josh F. Peterson, MD

References

1. Butler J, Ness R, Speroff T. Improving care for elderly patients with peptic ulcer disease: Should the focus be on drugs or bugs [editorial]? *JAMA* 2001;286:2023–4.

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