POEMs

Mixed Benefits of Gluten-Free Diet in Asymptomatic Patients with Celiac Disease

Clinical Question

Does testing for celiac disease and subsequent treatment with a gluten-free diet benefit asymptomatic patients with markers of celiac disease?

Bottom Line

Screening of asymptomatic relatives of patients with known celiac disease identified approximately 5% who were antibody-positive. Compared with their normal diet, a gluten-free diet improved some yet unrecognized symptoms but seemed to interfere with normal social activities in these patients. These results will not apply to patients at low risk of celiac disease or those with gluten sensitivity who choose a gluten-free diet. (Level of Evidence = 1b)

Synopsis

The Finnish researchers conducting this study started by recruiting adult relatives of patients with known celiac disease. After screening 3,031 relatives the researchers identified 148 (4.9%) who tested positive for endomysial antibodies. Patients underwent small intestine biopsy at baseline, after one year, and after two years, but the results were not analyzed until after the study was concluded. After excluding patients with symptoms, the authors randomized the 40 remaining patients to continue their normal diet or to begin a gluten-free diet. Of those assigned to the gluten-free diet, 92% said they adhered to it for one year. After one year, participants were given the choice to change diets.

At the end of the study, small intestine morphology (mucosal villous height) and celiac-associated antibodies improved without gluten. Here's where it gets interesting: Using the Gastrointestinal Symptoms Rating Scale to detect previously unrecognized symptoms, indigestion and reflux symptoms were significantly improved. Anxiety scores were improved to a greater extent on the Psychological General Well-Being Index. Other items on both surveys were not changed, although the study may have been too small to find a difference. However, social function, which is the degree of interference with normal social activities because of physical and emotional problems, was significantly better with a normal (gluten-containing) diet ($P = .031$). At the end of two years, 85% of the gluten-free diet group planned to remain gluten free. This study points out two important clinical points: Widespread screening for celiac disease even among high-risk persons is of low yield, and treatment with a gluten-free diet produces mixed benefits.

Study design: Randomized controlled trial (nonblinded)

Funding source: Self-funded or unfunded

Allocation: Concealed

Setting: Outpatient (specialty)

Reference: *Kurppa K, Paavola A, Collin P, et al. Benefits of a gluten-free diet for asymptomatic patients with serologic markers of celiac disease.* Gastroenterology. *2014;147(3):610.e1-617.e1.*

ALLEN F. SHAUGHNESSY, PharmD, MMedEd
Professor of Family Medicine
Tufts University
Boston, Mass.

Post-Myocardial Infarction Beta Blockers Do Not Decrease Mortality

Clinical Question

Does beta-blocker treatment after myocardial infarction reduce mortality?

Bottom Line

Although recommended by guidelines and used as a so-called quality indicator of hospital care, the use of beta blockers following myocardial infarction, when combined with optimal acute and chronic treatment, does not provide a further survival benefit. Beta-blocker use reduces subsequent reinfarction and angina symptoms, but these benefits begin to wane within 30 days. Heart failure and cardiogenic shock can occur with treatment, ▶

and patients often have trouble continuing treatment. (Level of Evidence = 1a)

Synopsis

These authors assembled randomized trials by searching three databases, including Cochrane CENTRAL, and found 60 trials that enrolled more than 100,000 patients. They separately analyzed studies conducted in the reperfusion era (n = 12), because the large gains in mortality reduction associated with the availability of thrombolytics, stents, and grafts—as well as the routine use of aspirin and statins—may blunt any additional benefit of beta-blocker treatment. Two researchers independently selected studies for inclusion and evaluated them for bias. Although early studies showed a benefit with beta blockers, modern era studies show no additional survival benefit when adding a beta blocker to optimal treatment. Beta blockers reduce reinfarction rates (number needed to treat = 209) and angina symptoms (number needed to treat = 26), but these benefits seemed to be limited to the first 30 days after the initial myocardial infarction. Rates of heart failure and cardiogenic shock are increased (numbers needed to treat to harm = 79 and 90, respectively).

Study design: Meta-analysis (randomized controlled trials)

Funding source: Self-funded or unfunded

Setting: Various (meta-analysis)

Reference: *Bangalore S, Makani H, Radford M, et al. Clinical outcomes with ß-blockers for myocardial infarction: a meta-analysis of randomized trials.* Am J Med. *2014;127(10):939-953.*

ALLEN F. SHAUGHNESSY, PharmD, MMedEd
Professor of Family Medicine
Tufts University
Boston, Mass.

Clinical Decision Support Linked to EMRs Does Not Decrease Mortality

Clinical Question

Do computerized decision support systems linked to electronic medical records (EMRs) improve patient outcomes?

Bottom Line

Despite several decades of the use of EMRs and computerized decision support systems, the overall quality of data supporting their use is poor and those data show these systems do not save lives or save money. Whether patient morbidity is improved is even less certain. (Level of Evidence = 1a)

Synopsis

The authors searched several databases to identify randomized trials that evaluated the effectiveness of computerized decision support systems linked to EMRs. They defined these systems as information systems that support clinical decision making and linked patient-specific information within an EMR. These systems facilitate practicing evidence-based medicine by stealth. Clinicians receive case-specific guidance messages based on rules or algorithms. Several authors independently and blindly determined study inclusion and study quality, and extracted data. They resolved disagreements by discussion. They ultimately included 28 randomized trials—nine assessed morbidity, 16 assessed mortality, and 17 reported economic outcomes. Overall, 18 studies evaluated clinical outcomes and 10 reported only economic data. The authors only included the studies that evaluated clinical outcomes for meta-analysis. Only one of the 18 studies was considered at low risk of bias. Of the nine studies (of nearly 14,000 patients) that assessed morbidity, the authors report that inconsistent and selective reporting of various outcomes threaten the data that suggest that computerized decision support systems appear to be associated with small degrees of improvement in morbidity. Sixteen trials of more than 37,000 patients found no overall effect on mortality (approximately 6% in each group). Finally, the studies reporting economic outcomes did not demonstrate any consistent cost savings associated with computerized decision support systems.

Study design: Meta-analysis (randomized controlled trials)

Funding source: Government

Setting: Various (meta-analysis)

Reference: *Moja L, Kwag KH, Lytras T, et al. Effectiveness of computerized decision support systems linked to electronic health records: a systematic review and meta-analysis.* Am J Public Health. *2014;104(12):e12-e22.*

HENRY C. BARRY, MD, MS
Professor
Michigan State University
East Lansing, Mich. ■