H. pylori have been detected in biopsy samples after ALA ingestion. To assess the feasibility of photodynamic *H. pylori* detection, Hammer-Wilson *et al.* measured the correlation between fluorescence in individual *H. pylori*-infected gastric pits and whole-sample fluorescence in biopsy samples from 8 *H. pylori*-positive and 4 *H. pylori* negative volunteers after ALA ingestion.

Strong correlation was found between individual gastric pit fluorescence and full-field fluorescence in all stomach areas. In samples from the antrum, PPIX fluorescence was greater in *H. pylori*-positive than in *H. pylori*-negative samples even in the absence of ALA, whereas in the corpus and fundus, this effect was observed only in the presence of ALA. The ratio of endogenous to PPIX-induced fluorescence could differentiate *H. pylori*-negative from *H. pylori*-positive samples even without ALA ingestion.

The authors conclude that fluorescence produced by PPIX improves *H. pylori* detection in all areas of the gastric mucosa, and might be detectable even without ALA treatment, because of endogenous PPIX taken up by the organism and because of inflammation produced by infection. The findings raise the possibility that the localization and severity of *H. pylori* infection could be mapped *in vivo* by fluorescence endoscopy.

Original article Hammer-Wilson MJ *et al.* (2007) Fluorescence diagnostics of *Helicobacter pylori*-infected human gastric mucosa: establishing technique and validity. *Scand J Gastroenterol* **42:** 941–950

Mitemcinal might improve symptoms of gastroparesis in a subset of patients with diabetes

Current research into effective treatments for gastroparesis is focused on agonists of motilin, a peptide hormone that accelerates gastric emptying. McCallum and colleagues studied whether mitemcinal, an orally administered motilin agonist, is effective at improving diabetes-related gastroparesis symptoms.

This randomized, double-blind, placebo-controlled study included 392 insulin-requiring patients (mean age 48.7 years, 64.5% female) with either type 1 or type 2 diabetes and >3 months' history of gastroparesis symptoms. Patients were randomly allocated to receive 5 mg mitemcinal twice-daily ($n = 131$), 10 mg mitemcinal twice-daily ($n = 130$) or placebo ($n = 131$) for 12 weeks, followed by 4 weeks of placebo for all patients. Patients reported symptom information and adverse events every week, and attended monthly assessment visits.

Patients rated their weekly response to treatment as either positive or negative. 'Overall responders' required positive responses for ≥75% of trial weeks, and 'complete responders' required three consecutive months with ≥50% of weekly responses being positive. There were significantly more overall responders in the 10 mg mitemcinal group than in the placebo group ($P < 0.05$). In a subgroup analysis, which included patients with BMI <35 kg/m^2 and hemoglobin A_{1c} <10%, there were significantly more overall responders ($P = 0.0002$) and complete responders ($P = 0.003$) in the 10 mg mitemcinal group than in the placebo group. Overall, the frequency of adverse events did not differ between groups.

The authors conclude that mitemcinal shows promise in a subset of diabetic patients with gastroparesis who should be targeted in further studies of this agent.

Original article McCallum RW *et al.* (2007) Efficacy of mitemcinal, a motilin agonist, on gastrointestinal symptoms in patients with symptoms suggesting diabetic gastropathy: a randomized, multi-center, placebo-controlled trial. *Aliment Pharmacol Ther* **26:** 107–116

Extra copies of chromosome 1 found in patients with slow-transit constipation

The causes of slow-transit constipation (STC) are unclear; however, most patients are female, have onset in early childhood and many have a family history of the disorder, which together suggest a genetic basis for the disorder. Now, researchers in Italy have found abnormal numbers of chromosome 1 in colonic cells from some patients with STC.

Rossi *et al.* used fluorescence *in situ* hybridization to search for chromosome abnormalities in colonic biopsy samples from 22 patients with STC and 12 control individuals. Abnormality in >10% of cells studied was defined as a significant result.

Samples were probed for chromosomes 1, 8, 17, X and Y, and also for the *HER2/neu* gene. Polysomy of chromosome 1 was found in >10% of enteric neurons from 10 patients,