

Perforated Diverticular Disease

To determine the incidence and mortality associated with diverticular perforation and the incidence of comorbidity, a population-based cohort study was carried out using patients with that disorder and population controls identified from 1990 to 2005 in the general practice research database. Incidence and mortality rates were modeled using Poisson and Cox regression. Comorbidity was quantified using the Charlson Index.

A total of 953 incident patients were identified with the overall incidence at 2.66 per 100,000 person/years. The incidence rate increased 2.28-fold when corrected for age and sex between 1990 and 2005. The risk of death was highest in the first year, with a 6-fold increase (hazard ratio 5.63), adjusted for age and sex. The risk of death in the first year was highest in those with lowest comorbidities (HR 11.11). The absolute mortality rates were greatest in those with the highest comorbidity (263.1 per 1,000 person/years).

It was concluded that the incidence of perforated diverticular disease has doubled over the period of the study. Patients presenting with a perforated diverticulum are six times more likely to die than the general population during the first year following perforation. Those who have the greatest comorbidity are the most likely to die; however, those with the least comorbidity have an 11-fold increase in mortality in the first year. (Humes, D.J., Solaymani-Dodaran, N., Fleming, K., et al. "A Population-Based Study of Perforated Diverticular Disease Incidence and Associated Mortality." *Gastroenterology*, 2009; Vol. 136:1198-1205.)

Gastrointestinal Transit Dysfunction in Cirrhosis

Liver cirrhosis is associated with increased prevalence of gastrointestinal symptoms, insulin resistance and altered gut transit. To assess the prevalence of gut transit abnormalities in patients with cirrhosis, compared with healthy controls and to evaluate the relation of gut transit with gastrointestinal symptoms and postprandial glucose and hormone profiles, gastric emptying, small bowel residence and colonic filling times were measured with a validated radiologic procedure in 42 patients with cirrhosis. In a subgroup of 25 patients, gastrointestinal symptoms were evaluated by using a validated questionnaire and a caloric satiation test.

Postprandial glucose, insulin, leptin, ghrelin, glucagon-like peptide 1, and PYY responses were also studied. Eighty-three healthy subjects served as controls for the transit studies and ten for their hormone analyses.

Of patients with cirrhosis, 24% had delayed gastric emptying and 38% had prolonged small bowel transit, compared with controls. Delayed gastric emptying was related to postprandial fullness and prolonged small bowel transit with diarrhea and abdominal pain. Patients with cirrhosis had increased post-prandial glucose, insulin and glucagon-like peptide 1 responses and reduced postprandial ghrelin. Delayed gastric emptying was related to increased postprandial glucose and reduced postprandial ghrelin. Post prolonged small bowel transit was related to increased postprandial glucose, insulin and reduced postprandial ghrelin.

It was concluded that a high proportion of patients with cirrhosis exhibit delayed gastric emptying or small bowel transit, which is related to gastrointestinal symptoms. Postprandial hyperglycemia, hyperinsulinemia and hypoghrelinemia might be linked to delayed gut transit in cirrhosis. (Kalaitzakis, E., Sadik, R., Holst, J., Ohman, L., Bjornsson, E. "Gut Transit is Associated With Gastrointestinal Symptoms and Gut Hormone Profile in Patients With Cirrhosis." *Clin Gastroenterol Hepatol*, 2009; Vol. 7: 346-352.)

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