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Answer: Perforated duodenal ulcer with pneumoperitoneum after endoscopy

The endoscopic images showed a chronic duodenal ulcer (**Panel A**) with a round defect (**Panel B**) located at the medial part of the base of the ulcer (yellowish). Air insufflation during endoscopy had resulted in the tense pneumoperitoneum (**Panel C**). Prior to the endoscopy, the pneumoperitoneum may have been too small to be detected clinically. The patient underwent emergency surgery which showed a perforated chronic duodenal ulcer with some free pus intraperitoneally. This was repaired with omental patching. The patient tested positive for *Helicobacter pylori* (*H. pylori*) and was given eradication therapy.

Peptic ulcer disease (PUD) remains common and an important cause of consultation and gastrointestinal bleeding. ¹ Ulcer perforation is now less common with the routine use and the availability of potent acid suppression therapy (proton pump inhibitors). ² *H. pylori* infection remains the most cause of gastroduodenal ulcer disease, followed by non-steroidal inflammatory drugs (NSAIDs). However, the prevalence of *H. pylori* infection has significantly declined with improvement in standard of living and decades of eradication practice. ³

The most common symptom of PUD is dyspepsia and this can be chronic or acute. Other associated symptoms include nausea, vomiting, anorexia and weight loss. However, some patients especially elderly patients or those with multiple comorbid conditions (cardiovascular disease, end stage renal failure, diabetes mellitus and rheumatic disorders) may not experience any or significant symptoms. The first presentations in these patients can be with complicated disease.

Diagnosis of PUD is now mostly made through endoscopic examination. Barium contrast study, specifically barium meal is now less frequently used. It is very important to test for *H. pylori* as ulcerations may reoccur if the organism is not eradicated. Peptic ulcer can heal even without definitive treatment (i.e. acid suppression therapy). However, use of potent acid suppression (proton pump inhibitors compared to histamine-2-receptors antagonist) accelerate healing and can prevent recurrence. Complicated disease such as perforation requires urgent diagnosis and surgery. ² In most cases, the perforation can be repaired with omental patching. Selective vagotomy may be performed to prevent recurrence. In patient with complicated disease, maintenance therapy with acid suppression therapy is recommended.

REFERENCES

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