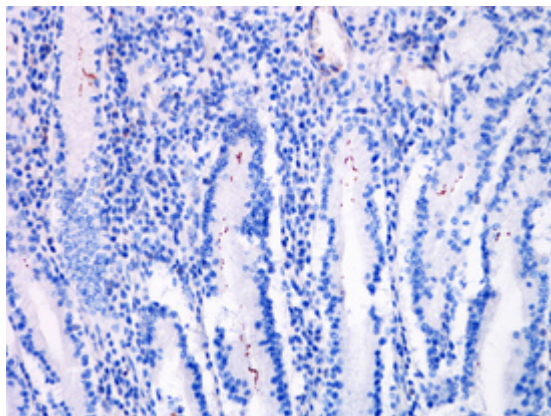
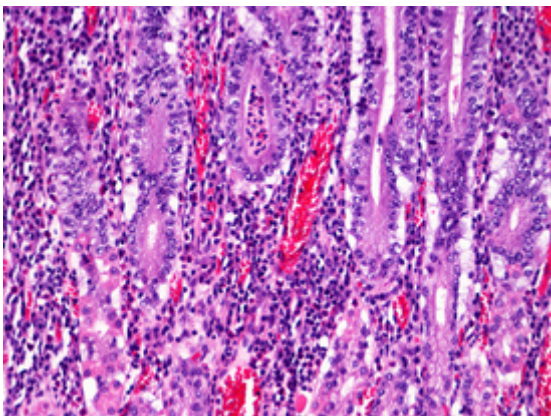
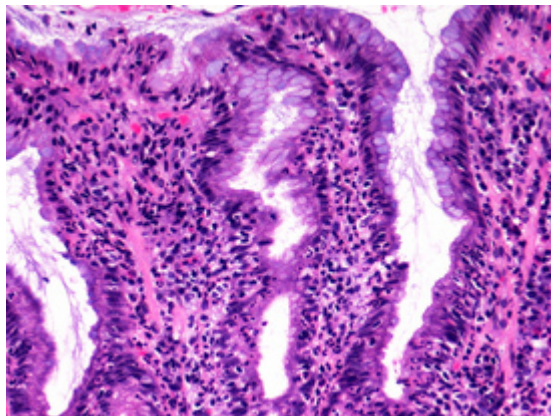
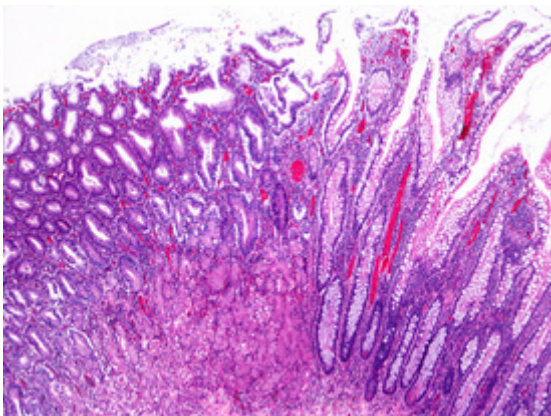
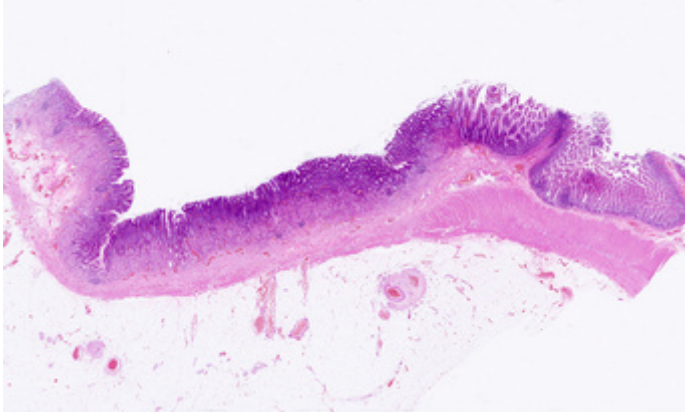


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31-year-old male with ileus; diverticulum in the ileum was found and resected.

What is your diagnosis?



Diagnosis:

Meckel's diverticulum, with ectopic gastric mucosa and chronic active inflammation due to *Helicobacter pylori* infection.

Comment:

Macroscopically, neck of the diverticulum is lined by small intestinal mucosa, while the diverticulum itself is lined by mucosa reminiscent of gastric mucosa (Panel A). Microscopically, there is transition of small intestinal mucosa, which appears normal, to oxyntic-type gastric mucosa (Panels B and C). Gastric mucosa shows chronic and focally active inflammation (Panels D and E). Giemsa stain and immunohistochemistry (IHC) reveal *Helicobacter pylori* on the surface and in the pits (Panel F).

Meckel's diverticulum (MD) results from persistent omphalomesenteric (vitelline) duct, the duct between the intestinal tract and the yolk sac. It is the most common congenital anomaly in the gastrointestinal tract, affecting up to 4% of the population. MD is usually located on the antimesenteric surface of the ileum, 7 to 200 cm proximal to the ileocecal valve (mean 52 cm). It is mostly asymptomatic, but clinical manifestation can emerge, resulting from hemorrhage, obstruction or inflammation with or without perforation. Clinical symptoms are nonspecific and can be mistaken easily for other more common conditions, e.g., appendicitis. MD is therefore a diagnostic challenge and is often found incidentally during work-up for symptoms that are expected to be from another cause. Symptomatic MD can be managed by surgical resection.

MD is lined by small intestinal mucosa, but may contain ectopic gastric mucosa, pancreatic tissue or even colonic and biliary mucosa. Tumors may rarely arise from ectopic tissue, e.g., neuroendocrine tumors, adenocarcinoma and mesenchymal tumors. Ectopic gastric mucosa in MD is a frequent finding, particularly in symptomatic MD. Acid-secreting gastric mucosa can give rise to reactive gastropathy and peptic ulcer, which is usually found at the junction of gastric and ileal mucosa. The role of *Helicobacter pylori* in MD inflammation is controversial. The presence of *Helicobacter pylori* has been reported in a few MD cases, using special stains, IHC and/or real-time PCR. Some authors believe that IHC is an insufficient proof as it may stain other *Helicobacter* species, e.g., enterohepatic *Helicobacter spp.* In our case, PCR was not performed. Nevertheless, positive IHC, together with morphologic features, suggestive of *Helicobacter pylori* gastritis, strongly support the involvement of *Helicobacter pylori* in MD inflammation.

For further reading:

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- › Hansen CC, Søreide K. Systematic review of epidemiology, presentation, and management of Meckel's diverticulum in the 21st century. *Medicine (Baltimore).* 2018; 97: e12154.
- › Suhardja TS, Kua H, Hrabovszky Z. *Helicobacter pylori* colonisation in heterotopic gastric mucosa in Meckel diverticulum: case report and review of the literature. *Clin Med Insights Case Rep.* 2019; 12: 1179547619846088.

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