

CVID BACKGROUND

- Common variable immunodeficiency (CVID) is the most common primary immunodeficiency in the world, affecting around 1 in 25,000 individuals [1]
- It is characterized by defective differentiation of B cells into plasma cells leading to impaired secretion of immunoglobulins [1]
- Patients tend to experience recurrent respiratory and gastrointestinal infections [1]

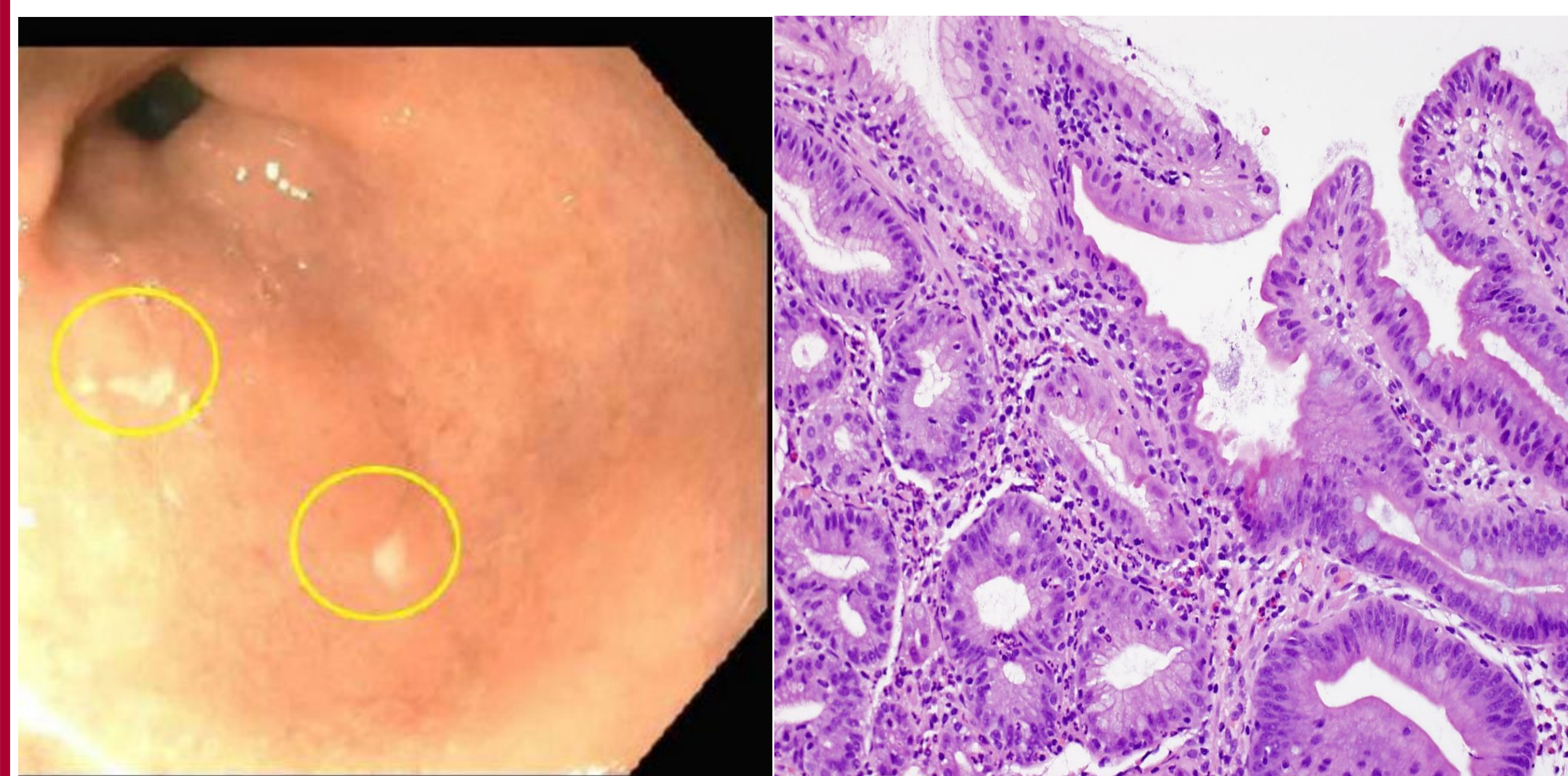
CVID & GASTRIC CANCER BACKGROUND

- **10-47 fold increased risk** for developing gastric cancer [2,3]
- Risk factors for developing gastric cancer in this population include: achlorhydria, H. pylori, decreased gastric IgA production, pernicious anemia and other autoimmune phenomena [3,4,5]
- In patients with CVID, gastric cancers tend to be moderate to poorly differentiated intestinal-type adenocarcinoma (tubular adenocarcinoma) arising in a background of gastritis characterized by severe atrophy, intestinal metaplasia (IM), low plasma cell count, lymphoid nodular aggregates, and apoptotic activity [6]

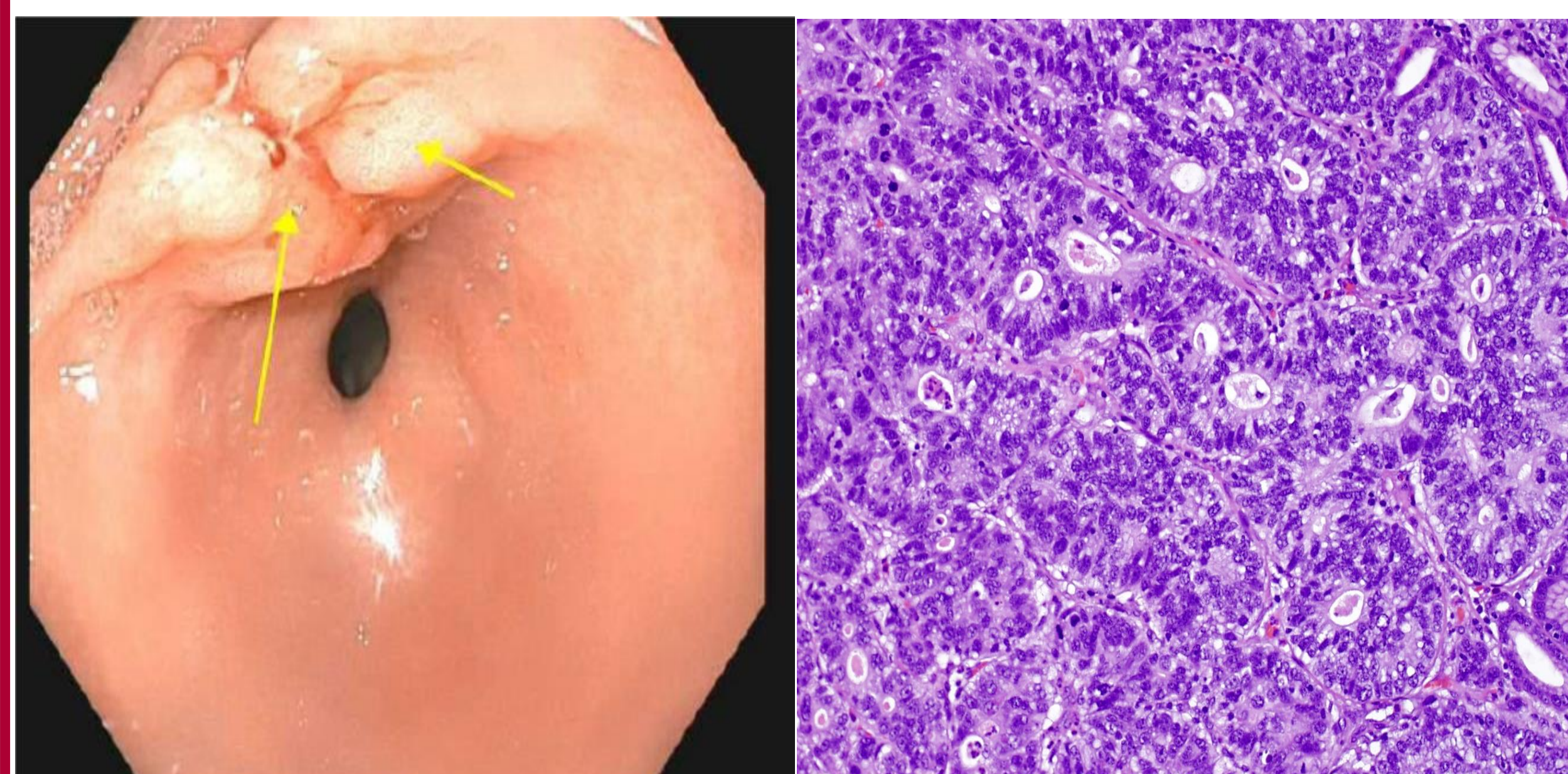
CASES

42 year old woman with history of CVID whose GI history included episodic diarrhea associated with nausea, vomiting, weakness, numbness, and paresthesias

- 2014: Giardia
- 2018: EPEC, EAEC, Giardia; SIBO; *H. pylori*
- 2019: *H. pylori*

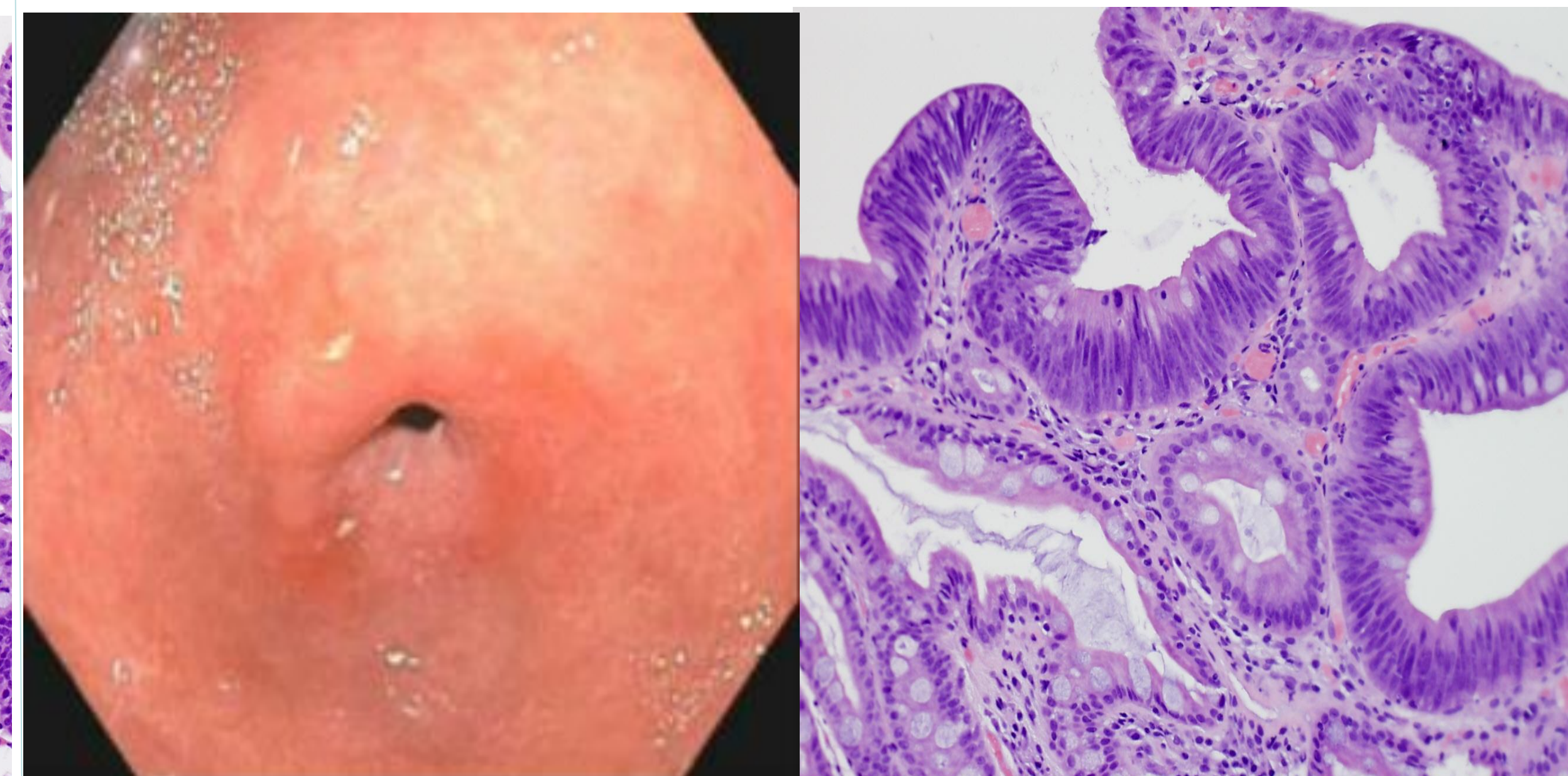


2019. Left: non-bleeding superficial gastric ulcers in the gastric antrum. Right: chronic active gastritis on the left with intestinal metaplasia on the right (H&E, original mag x200). *H. pylori* was detected on immunohistochemical stain.

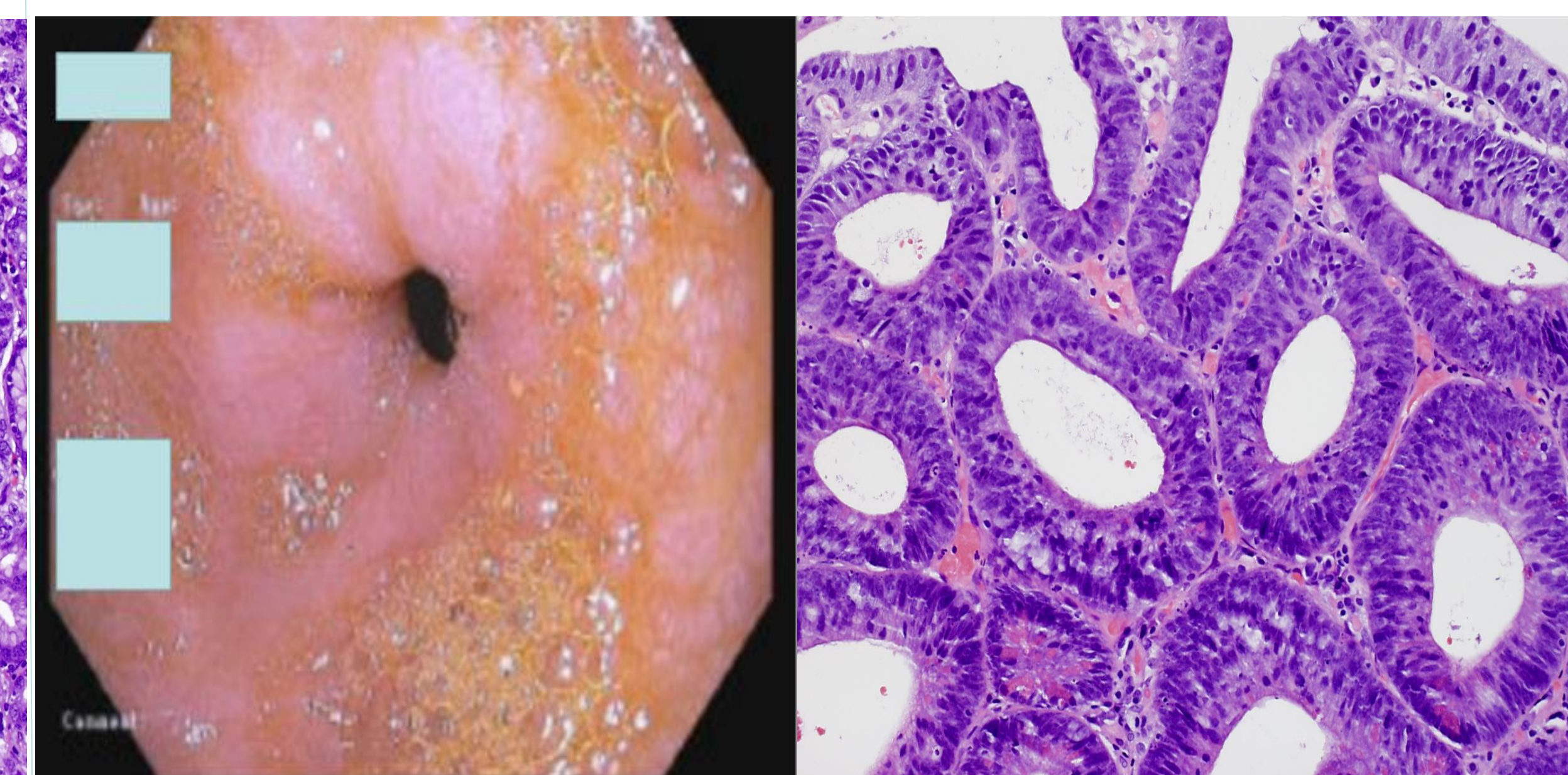


2022. Left: non-bleeding cratered ulcer with nodular edge with flat pigmented spot (Forrest Class IIc) on greater curvature of gastric antrum. Right: moderately differentiated gastric adenocarcinoma in the distal gastrectomy (H&E, original mag x200). No *H. pylori* was identified.

64 year old woman with history of CVID, Celiac disease, pernicious anemia, adrenal insufficiency, hypothyroidism, and CTLA4 mutation



2019. Left: patchy moderate mucosal changes characterized by intestinal metaplasia in gastric antrum. Right: intestinal metaplasia with low grade dysplasia in antral biopsy (H&E, original mag x200).



2022. Left: diffuse moderate mucosal changes characterized by atrophy in gastric pre-pyloric region. Right: high grade dysplasia, incisura biopsy (H&E, original mag x400).

CURRENT GUIDELINES FOR IM

- In patients with gastric intestinal metaplasia, the AGA recommends testing for *H. pylori* followed by eradication [7]
- In patients with gastric intestinal metaplasia, the AGA suggests against routine use of endoscopic surveillance. Patients with gastric intestinal metaplasia at higher risk for gastric cancer who put a high value on potential but uncertain reduction in gastric cancer mortality, and who put a low value on potential risks of surveillance endoscopies, may reasonably elect for surveillance [7]. *These recommendations do not address CVID.*
- In patients with gastric intestinal metaplasia, the AGA suggests against routine repeat short-interval endoscopy with biopsies for the purpose of risk stratification [7]

CONCLUSIONS

- CVID carries high risk for gastric cancer and dysplasia**
- There is an urgent need for gastric cancer screening guidelines in the CVID population**

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