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An Unusual Cause of Abdominal Pain

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Conflicts of Interest

The authors declare no conflicts.

Question:

A 43-year-old man with a history of lumbar disc herniation, who was on diclofenac, presented to our hospital with paroxysmal epigastric dull pain for 2 weeks, which is not severe, and unrelated to meals. he was taking oral diclofenac sodium for back pain. He denied a history of nausea, vomiting, hematemesis, bloating, diarrhea, weight loss, frequent urination, hematuria, or lower limb edema. His vital signs include: temperature 36.5°C、blood pressure 107/58mmHg、heart rate 94 beats/min. Physical examination revealed tenderness in the upper abdomen; no ulcers in the mouth, vulva, or genitals; and no rash or erythema of the limbs. Laboratory studies showed white blood cells $10.07 \times 10^9/L$ (reference: $3.5-9.5 \times 10^9/L$) with hemoglobin 129 g/L (reference: 130–175 g/L), platelets $249 \times 10^9/L$ (reference: $125-350 \times 10^9/L$), eosinophils $0.16 \times 10^9/L$ (reference: $0.02-0.52 \times 10^9/L$), C-reactive protein (CRP) 55.04 mg/L (reference: 0–6 mg/L), erythrocyte sedimentation rate 33.9 mm/h (reference: 0–15 mm/h). Liver function tests revealed albumin 30.5 g/L

(reference: 40–55 g/L). Fecal occult blood test was positive, urine protein 2 +, and urinary occult blood positive. Urine microscopy revealed dysmorphic red blood cells 60/HP. Clotting function, kidney function, thyroid function, gastrointestinal tumor markers, Epstein-Barr virus (EBV), cytomegalovirus (CMV), and T-SPOT were all within normal range. Antinuclear antibody, antineutrophilic cytoplasmic antibody vasculitis autoantibody, and immunoglobulin A (IgA) tests were negative. Electrocardiography and chest computed tomography (CT) revealed no significant abnormalities. Abdominal CT scan showed the following findings (Figure A-F). Upper gastrointestinal endoscopy revealed the following findings (Figure G-L). Endoscopic biopsies of the duodenum were undertaken and histopathology showed the following findings (Figure M-P).

After hospitalization, he was kept nil by mouth, and started on nutritional support, antibiotics, and gastric mucosal protection, without relief of symptoms. On 11th day of hospitalization, we noted the following findings on his lower limbs. (Figure Q-R)

What will you do next to confirm the diagnosis?

Establishing the Diagnosis

Our patient presented with acute onset, of paroxysmal epigastric pain, and mild leucocytosis. CT scan showed a slightly thickened bowel wall, blurred fat gap as the duodenum ascended to the beginning of the jejunum. Endoscopy of the descending duodenum revealed mucosal congestion, erosion, and shallow ulcers extending to the jejunum. The pathology of the intestinal biopsy revealed infiltration of inflammatory cells, mainly lymphocytes, plasma cells, neutrophils, and eosinophils (<10/ High power field). Urinalysis and urine microscopy showing dysmorphic red blood cells suggest glomerular pathology. Given these findings, the possibility of allergic purpura is highly suspected, and the possibility of other autoimmune diseases cannot be ruled out. Other possibilities such as eosinophilic enteritis, Crohn's disease, lymphoma, and mesenteric vascular disease were considered but excluded based on imaging studies and small intestinal biopsy findings. As the patient was being managed in the hospital, the rash appeared on the limbs which increased our suspicion for Henoch Schonlein Purpura. Renal biopsy confirmed the diagnosis with the demonstration of local proliferative purpura nephritis with diffuse IgA deposition. (FigureS -X)

Review

IgA vasculitis (IgAV), formerly known as allergic purpura (HSP), is a systemic vasculitis caused by the deposition of immune complexes on the walls of small veins, capillaries, and arteries. It is characterized by nonthrombocytopenic dermal purpura, which can be accompanied by joint pain, kidney involvement, abdominal pain, and gastrointestinal hemorrhage. Skin examination can reveal vasculitis (multiple areas of erythema, hemorrhagic spots, and dark red submucosal hematoma bulges). IgAV occurs in children and adults, but is rarer and more severe in adulthood. Abdominal pain is the most common gastrointestinal symptom (50%) in IgAV patients, usually in the upper and right lower abdomen, and can be accompanied by vomiting (26.7%) and mild bleeding (9.2%)^[1]. More than 20% of the individuals with HSP experience digestive symptoms before HSP develops. Some cases of HSP are not characterized by a rash and are often difficult to diagnose, leading to misdiagnosis, and in some cases, even after exploratory laparotomy. Therefore, the possibility of IgAV should be considered when abdominal pain is difficult to explain using endoscopy or when conventional treatment is ineffective. No specific biomarkers are available for direct diagnosis of IgAV. Elevated peripheral blood leukocytes, CRP, and serum IgE levels may indicate disease activity. On enhanced CT, thickening of the gastrointestinal tube walls (most commonly the small intestine; in this case, duodenum), extensive involvement, enhanced targeting ring, and unfilled mesenteric vessels may support

HSP diagnosis. Endoscopic features include frequent involvement of the duodenum and terminal ileum. Studies have shown that erythema and bruises are the most common endoscopic features of the upper digestive tract, whereas erosions and ulcers are more common in the lower digestive tract^[2]. In this case, the appearance of the duodenum on endoscopic images was similar to that reported previously. The descending duodenal section showed flaky mucosal erosion and a shallow ulcer with discontinuous and irregular ulcers. Small intestinal villus edema was observed in the mucosa near the erosive surface; however, some villi were missing^[3]. These endoscopic images can help us to better understand the characteristics of the disease. Abdominal enhancement CT, gastrointestinal endoscopy, and renal biopsy are effective methods for the early diagnosis of HSP in adults.

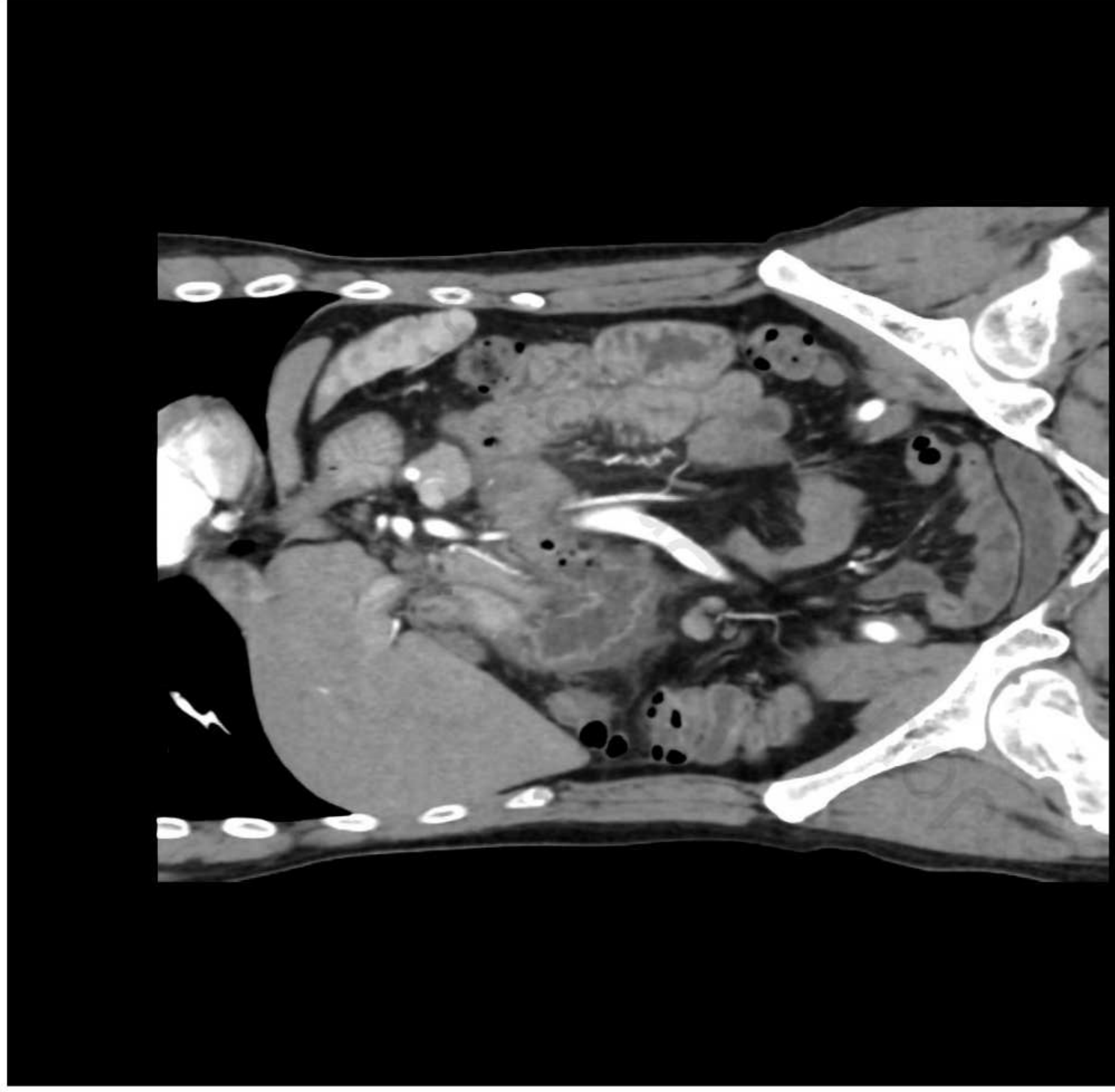
Patient Outcome

After the diagnosis was confirmed, we added antihistamines, methylprednisolone 24 mg/day, proton pump inhibitors, and calcium supplementation during hospitalization, which significantly improved abdominal pain and gradually reduced urine protein levels. Six months later, renal function returned to normal, urinary protein disappeared, and urine red blood cells were 46 ul. During outpatient follow-up visits, patients are advised to be on a low-salt diet as much as possible, monitor and control blood pressure, and check blood sugar. In addition, he was advised to avoid fatigue, infection, suspicious allergens and taking Chinese medicines of unknown origin, and pay attention to protecting the stomach and prevent osteoporosis. Treatment of IgAV in adults is difficult for clinicians, and renal involvement is associated with poor prognosis in adults. However, there is no evidence that corticosteroids or immunosuppressants improve long-term outcomes, and potential adverse effects of steroids and immunosuppressants are of concern.

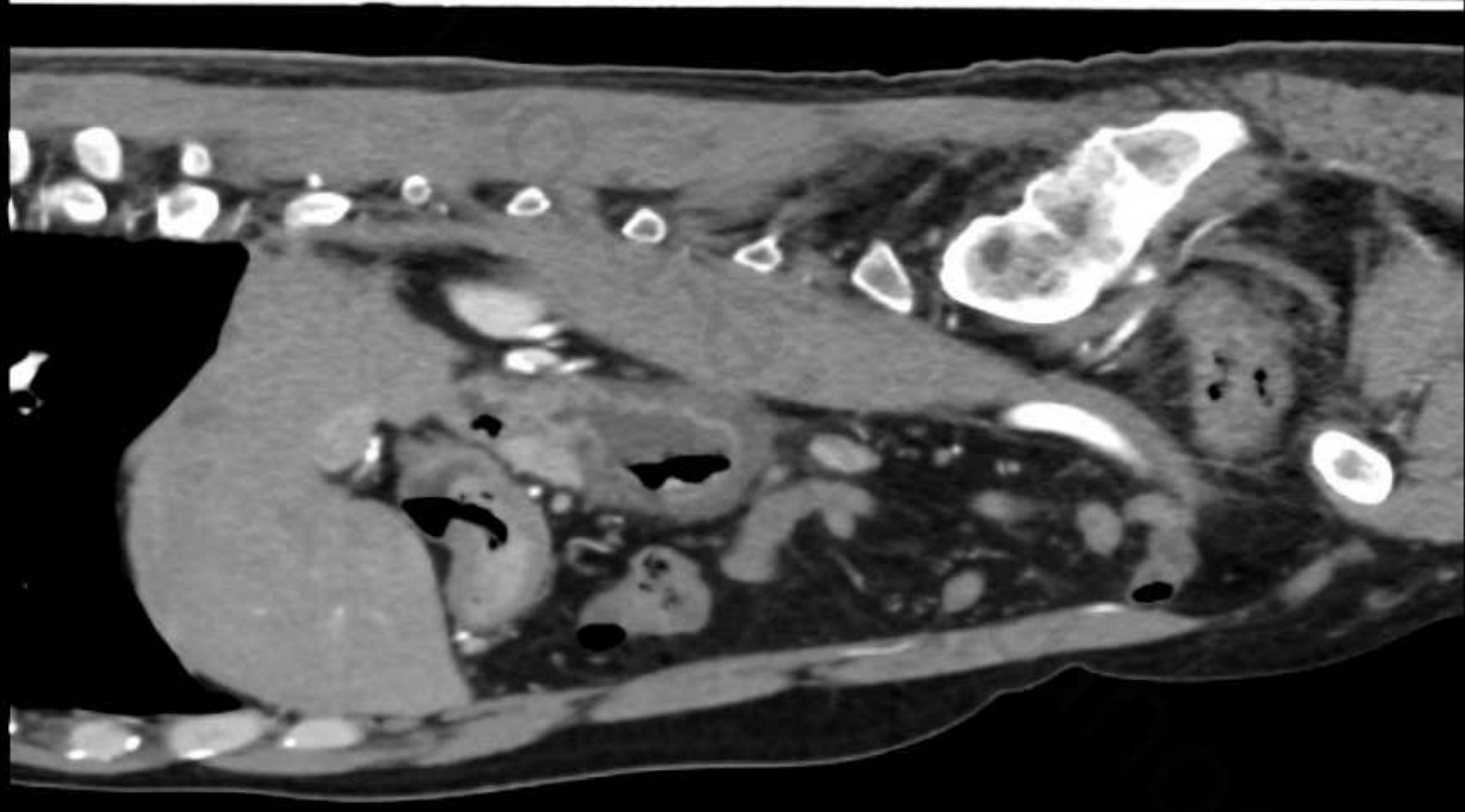
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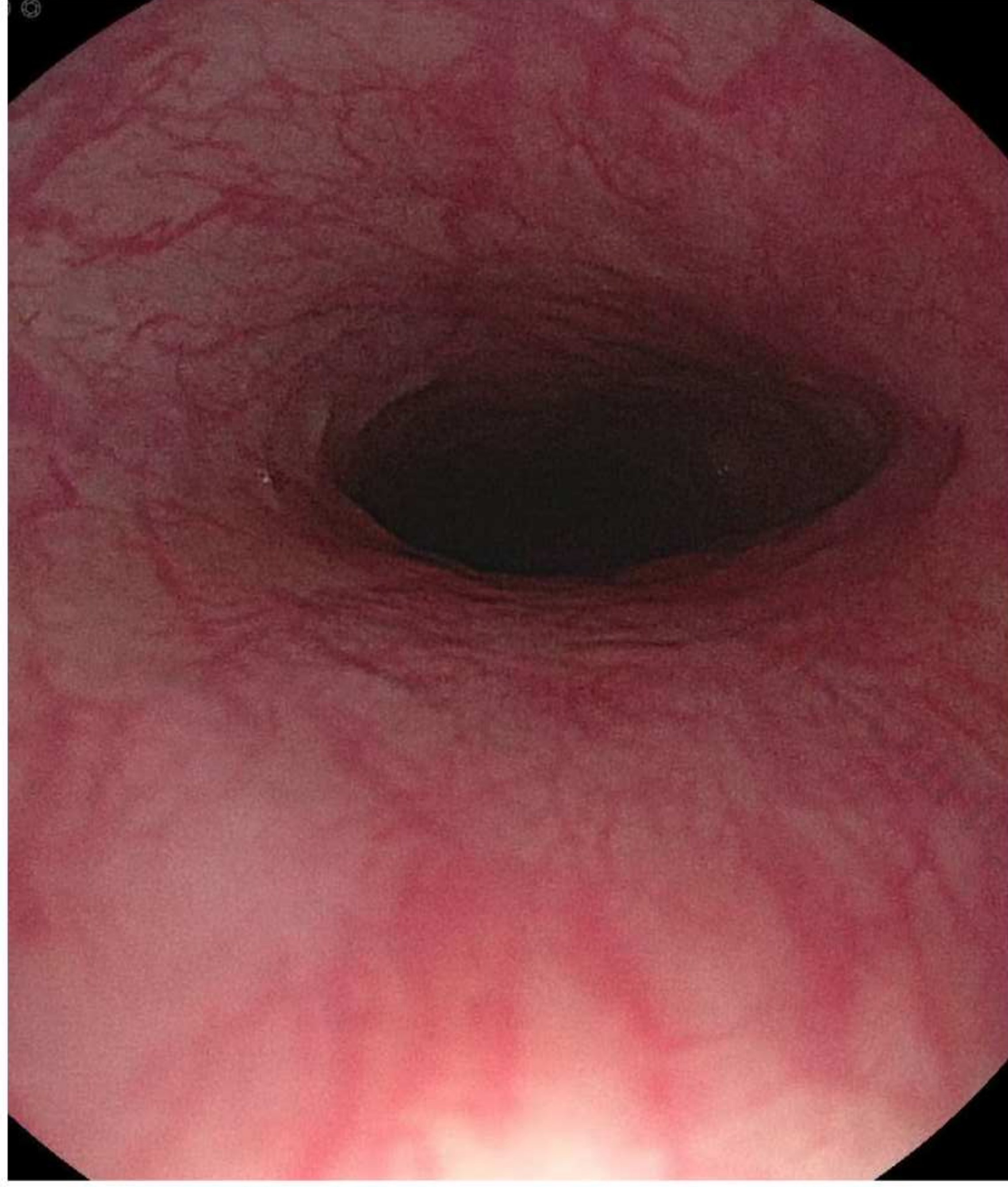


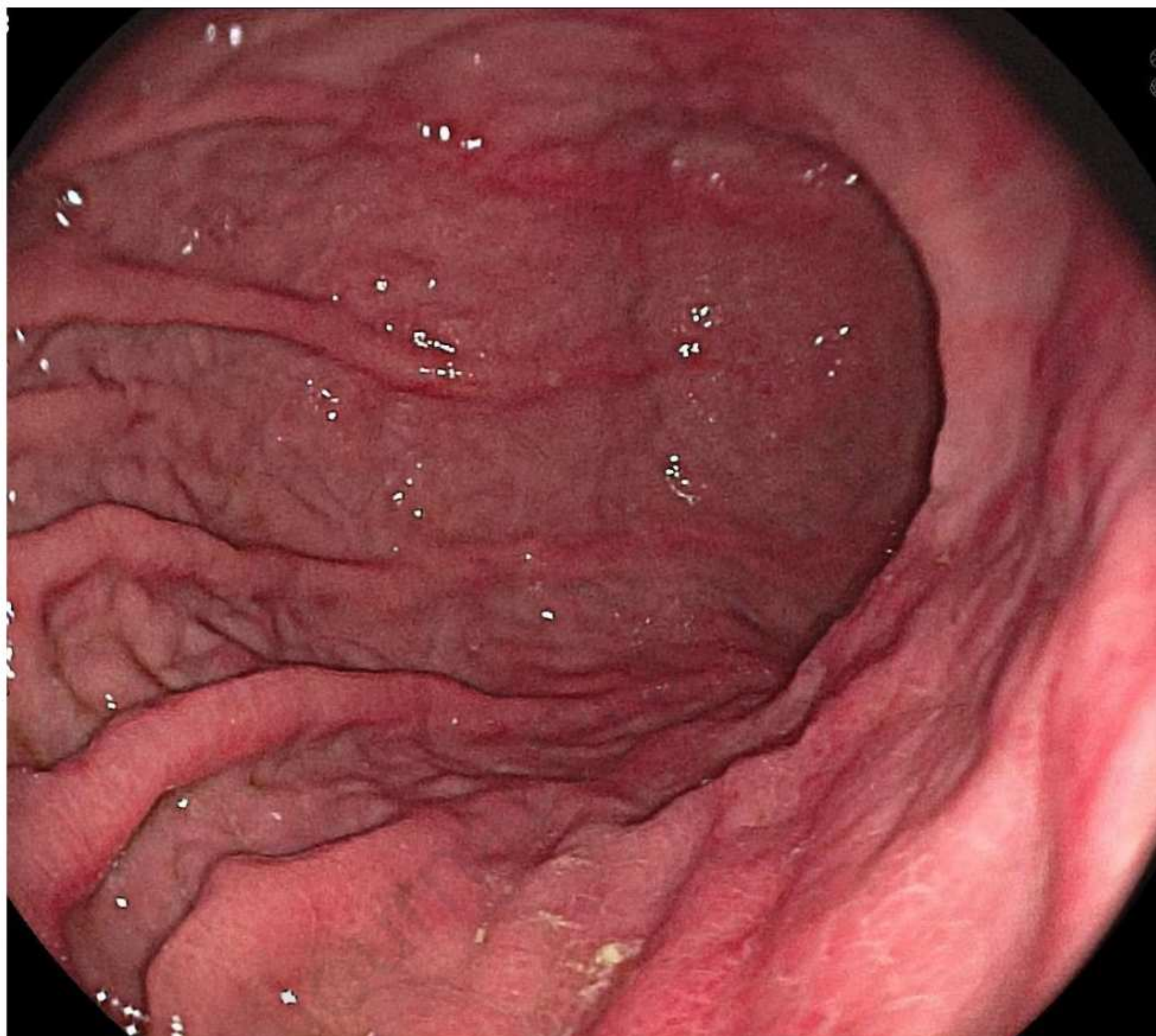


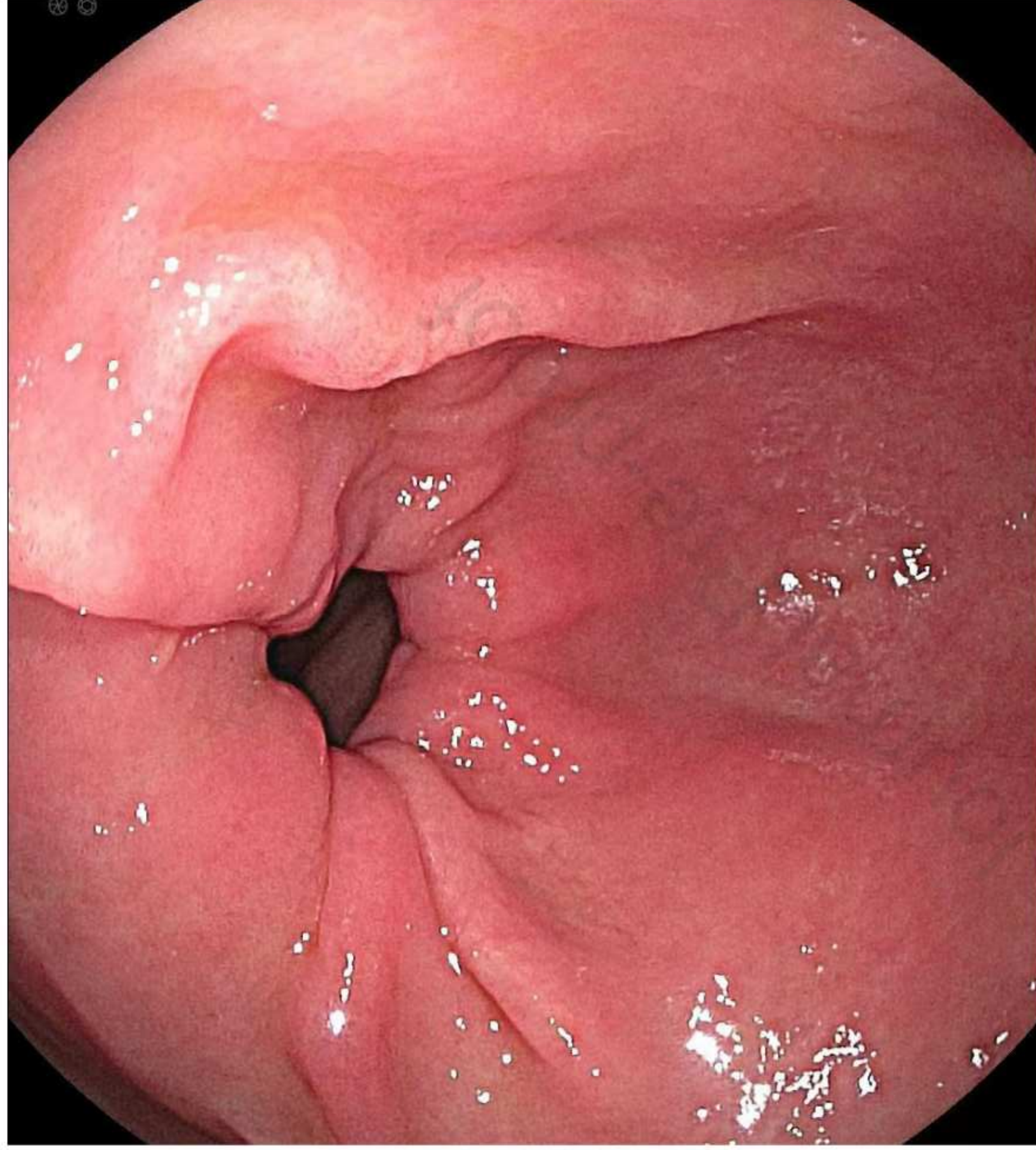


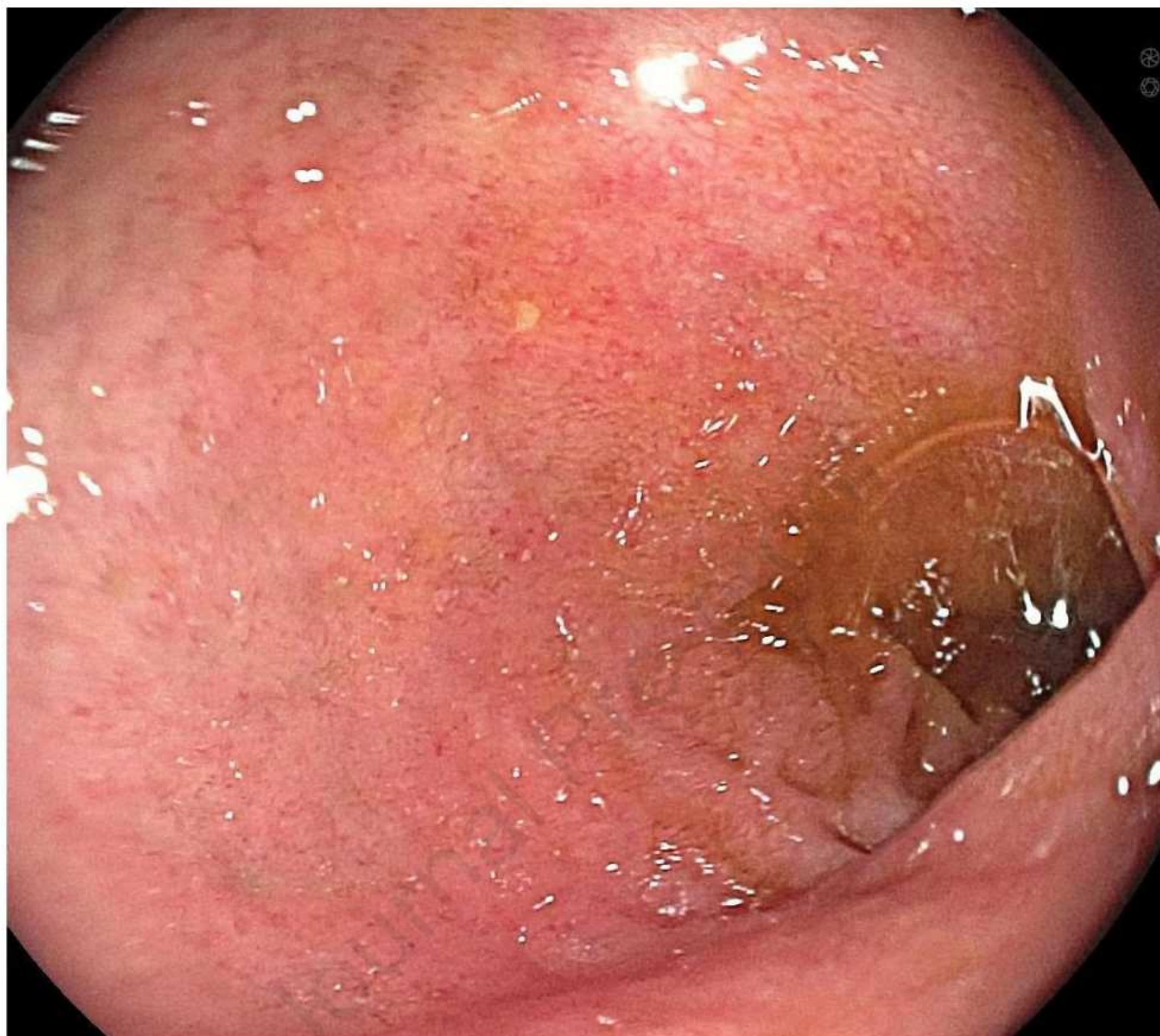




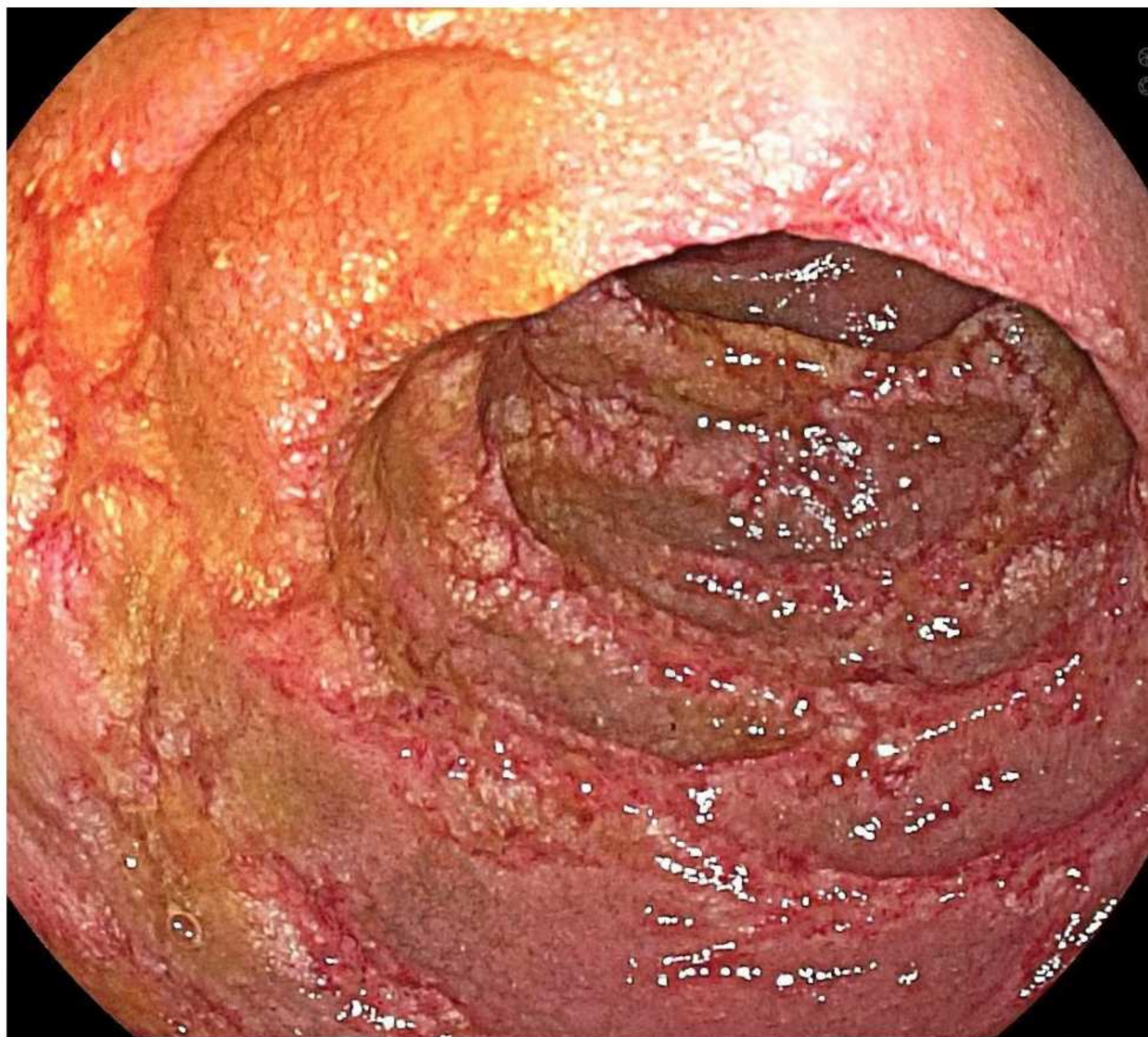




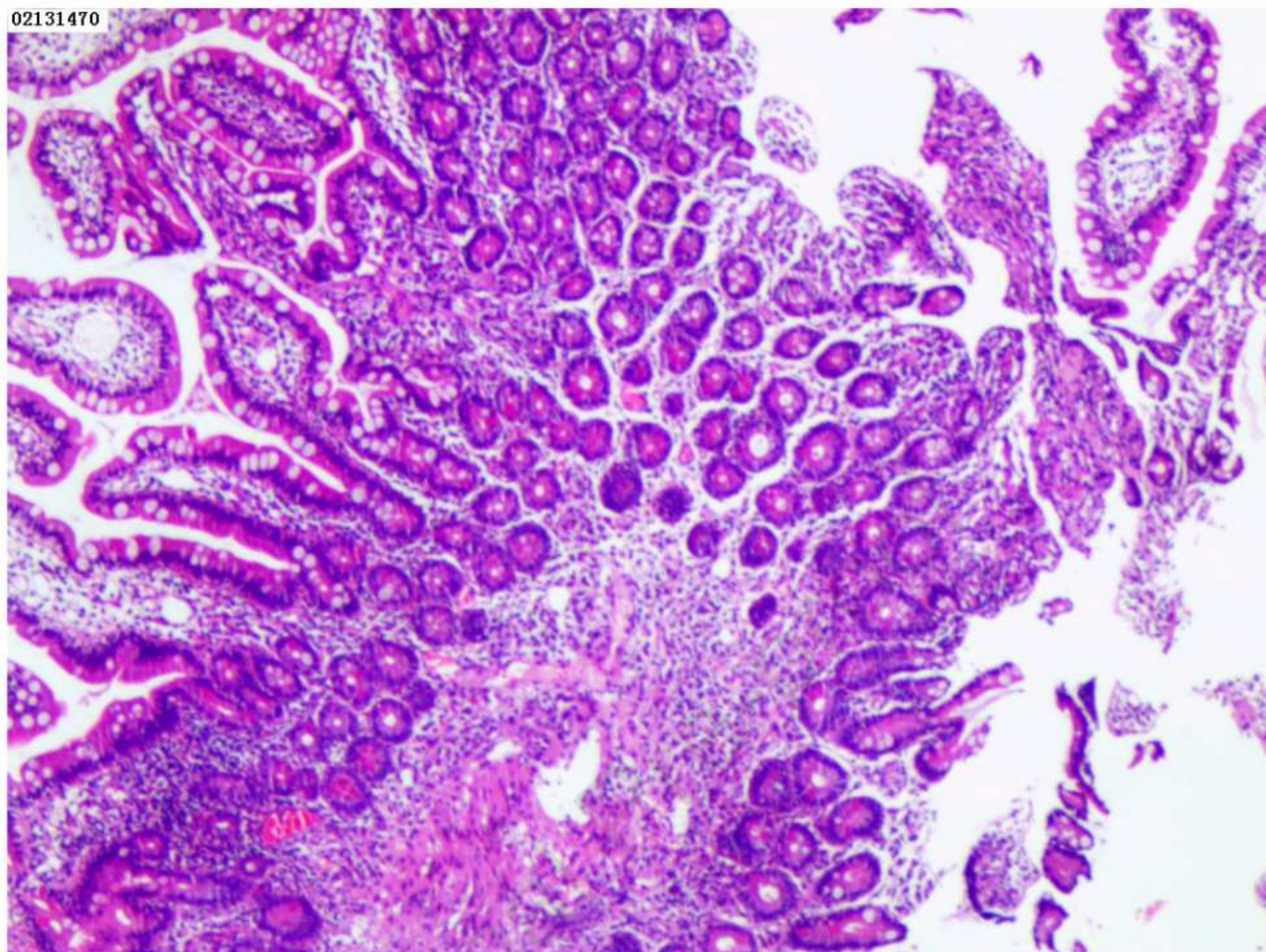




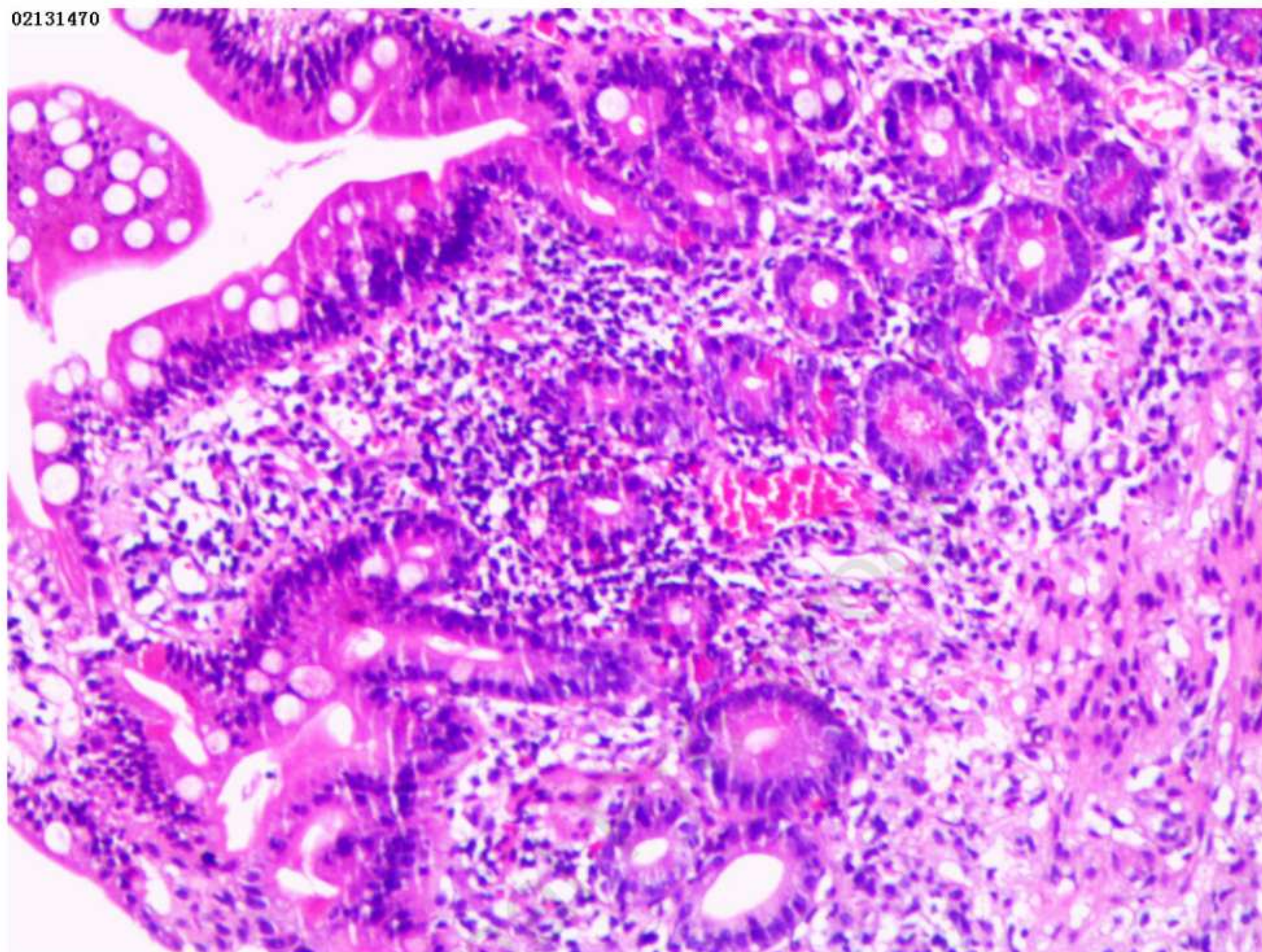




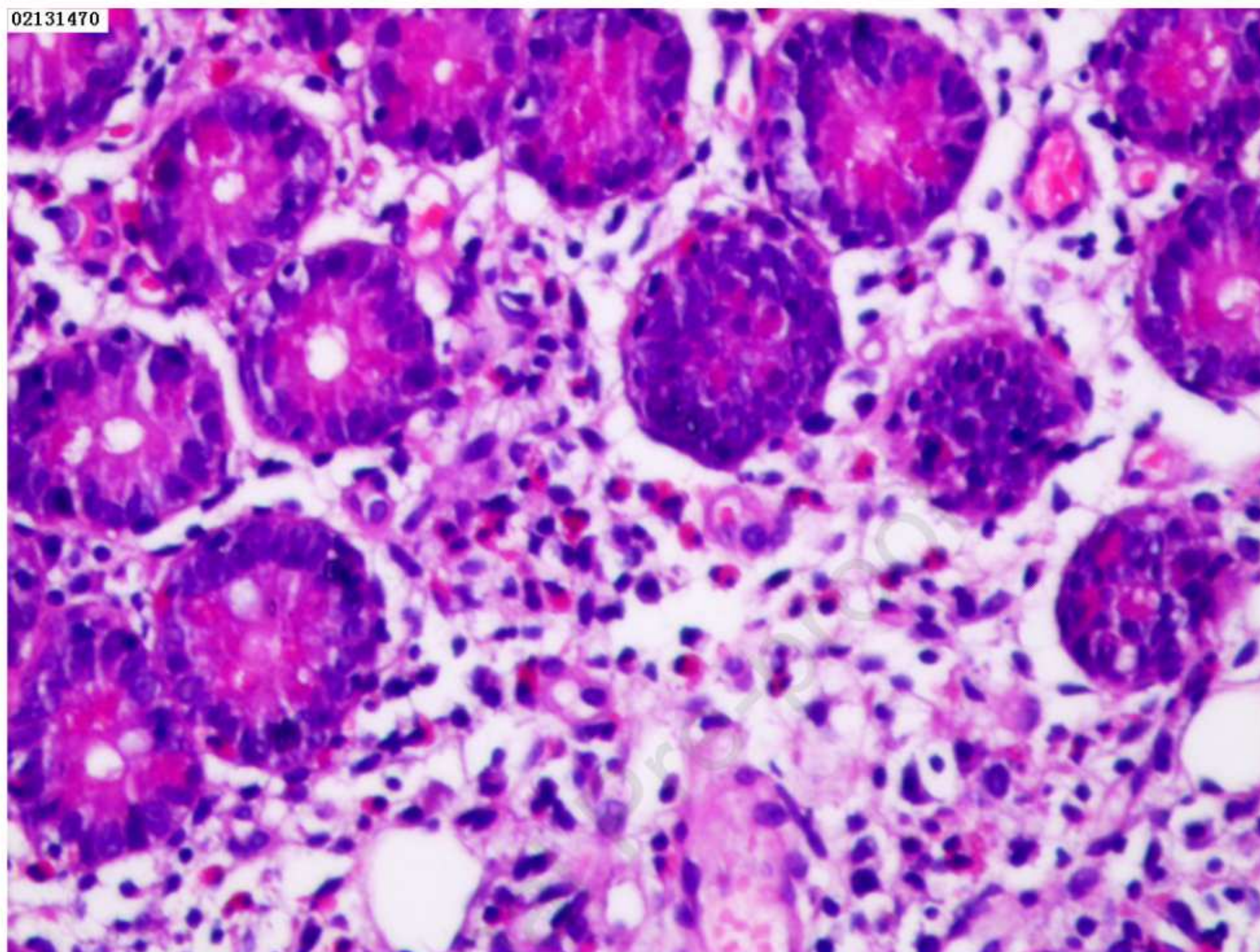
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