

IMAGE OF THE MONTH

크론병에서 대나무 마디 모양의 위 내시경 소견

서광일, 문원

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Endoscopic Bamboo Joint-like Appearance of the Stomach in Crohn's Disease

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Case: A 23-year-old man visited the Emergency Room with epigastric abdominal pain and diarrhea for period of one week. He suffered from watery diarrhea—more than 8 times a day—without blood, accompanied by periodical epigastric pain. Two years ago, he had suffered from a severe abdominal pain with fever, and he was diagnosed with Crohn's disease (CD) after colonoscopy. After medical therapy, his symptoms were resolved, showing an improvement in his follow-up clinical findings. However, he stopped the medication for 6 months before visiting our hospital.

On the initial physical examination, his blood pressure was 113/75 mmHg, pulse rate was 85 per minute, respiratory rate was 20 per minute, and body temperature was 37.2 °C. The abdomen was soft and flat. However, a mild tenderness in the epigastric and right upper quadrant area was identified. He did not have any other previous medical history, including diabetes, hypertension, viral hepatitis, and tuberculosis.

Laboratory test showed white blood cell count of 10,980/uL (polymorphonuclear neutrophils, 83.5%; lymphocytes, 10.0%; eosinophils, 0.8%), hemoglobin of 13.4 g/dL, platelet count of 335,000/uL, C-reactive protein level of 10.75 mg/dL, erythrocyte sedimentation rate of 38 mm/hr, and prothrombin

time of 16.6 seconds (international normalized ratio 1.30). The renal function and electrolytes tests were both normal. Abdominal CT scan showed diffuse enhancing wall thickening in the colon, from ascending to transverse colon.

A colonoscopy showed diffuse hyperemic mucosal changes at the terminal ileum (Fig. 1A), as well as at multiple various sized longitudinal, deep active ulcers with normal looking intervening mucosa through the whole colon (Fig. 1B). These findings were consistent with CD. A round, slightly raised 4 mm-sized erosion was noted on the 3 o'clock direction of the perianal skin, which was located 2 cm from the anal verge (Fig. 2). Esophagogastroduodenoscopy (EGD) was performed for recurrent epigastric pain. Several longitudinal, hyperemic, elevated mucosal folds transversed by multiple, regularly distributed, sharp pale-colored erosive fissures were noted from the cardia to the lesser curvature of the mid-body, showing a typical bamboo joint-like gastric folds of CD (Fig. 3). The pathologic findings of these folds showed multifocal aggregates of mixed inflammatory cells in the lamina propria without granuloma, consistent with chronic gastritis (Fig. 4). Therefore, the final diagnosis was CD involving the colon and stomach, showing a typical bamboo joint-like appearance.

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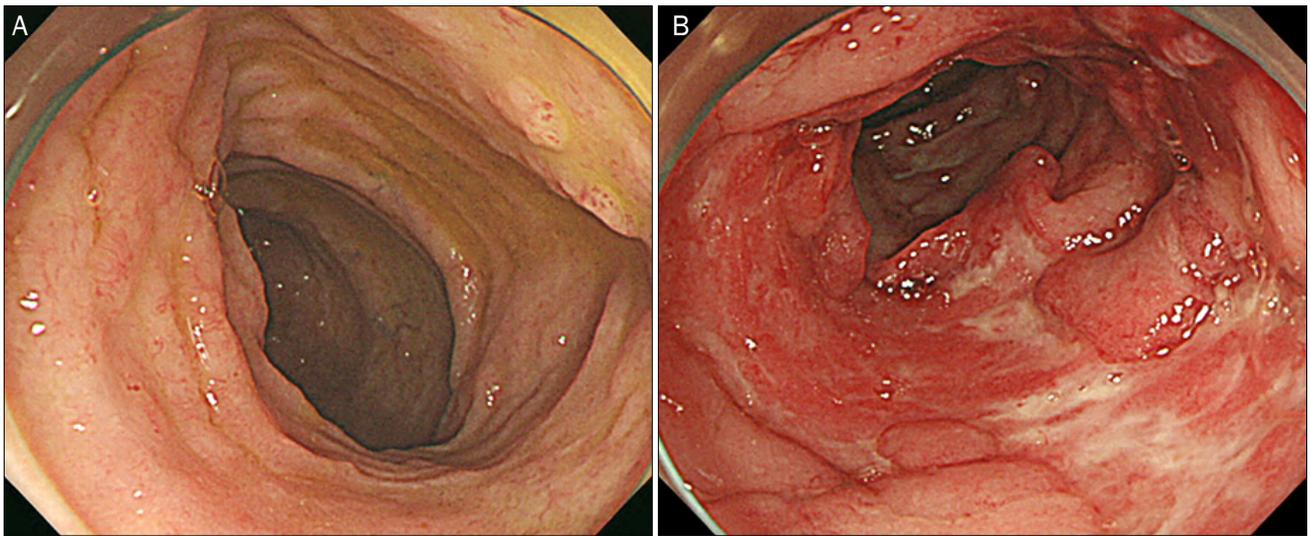


Fig. 1. Colonoscopic finding. (A) In the terminal ileum, diffuse hyperemic mucosa with a few tiny erosions was noted. (B) In the whole colon, multiple longitudinal, deep active ulcers with normal looking intervening mucosa were scattered.



Fig. 2. Perianal finding with a colonoscopy. A raised 4 mm-sized erosion—round in shape—was noted in the perianal skin.

Diagnosis: Crohn's disease involving the terminal ileum, the colon and the stomach

Chronic inflammation of the gastrointestinal track is a major feature of inflammatory bowel disease (IBD). The remitting and relapsing inflammatory changes are the natural course of this disease. The two main forms of IBD are CD and Ulcerative colitis (UC).¹ Currently, the prevalence of IBD has increased in Asia, including Korea.² Moreover, the relatively higher prevalence of intestinal tuberculosis and Behcet's disease in Korea is a barrier for making an accurate diagnosis

of IBD.^{3,4} Therefore, an endoscopy is a crucial diagnostic tool for an accurate diagnosis and proper management of IBD.

Colonoscopy is commonly performed in patients with gastrointestinal symptoms with suspicion of IBD, including stool containing mucus or blood, nocturnal diarrhea, and incontinence.¹ An endoscopic examination allows for the differential diagnosis between UC and CD; it also serves to assess the disease, including activity, extent, and histology.⁵ Typical colonoscopic findings of CD are longitudinal ulcers, cobblestone appearance, and small aphthous ulcerations in a longitudinal arrangement.⁶ Colonoscopy findings in patients with newly diagnosed CD were aphthous ulcers (59.3%), longitudinal ulcers (37.2%), and cobblestone appearance (23.9%).⁷

CD can involve the whole gastrointestinal tract, from the mouth to the anus.⁸ Therefore, an upper gastrointestinal involvement of CD is possible. However, there has not been any report on specific symptoms of CD with gastroduodenal involvement. Consequently, EGD is not routinely recommended in CD patients.⁹ Currently, the prevalence of upper gastrointestinal track involvement in IBD has been increasing as more patients undergo routine EGD regardless of upper gastrointestinal symptoms.¹⁰

EGD findings in CD patients were gastric erosion, atrophic gastritis, and duodenal erosions or ulcers.¹¹ A typical finding called bamboo joint-like appearance on EGD was found in 54% of CD patients. These lesions were found in the lesser curvature of the body and cardia, characterized by "swollen

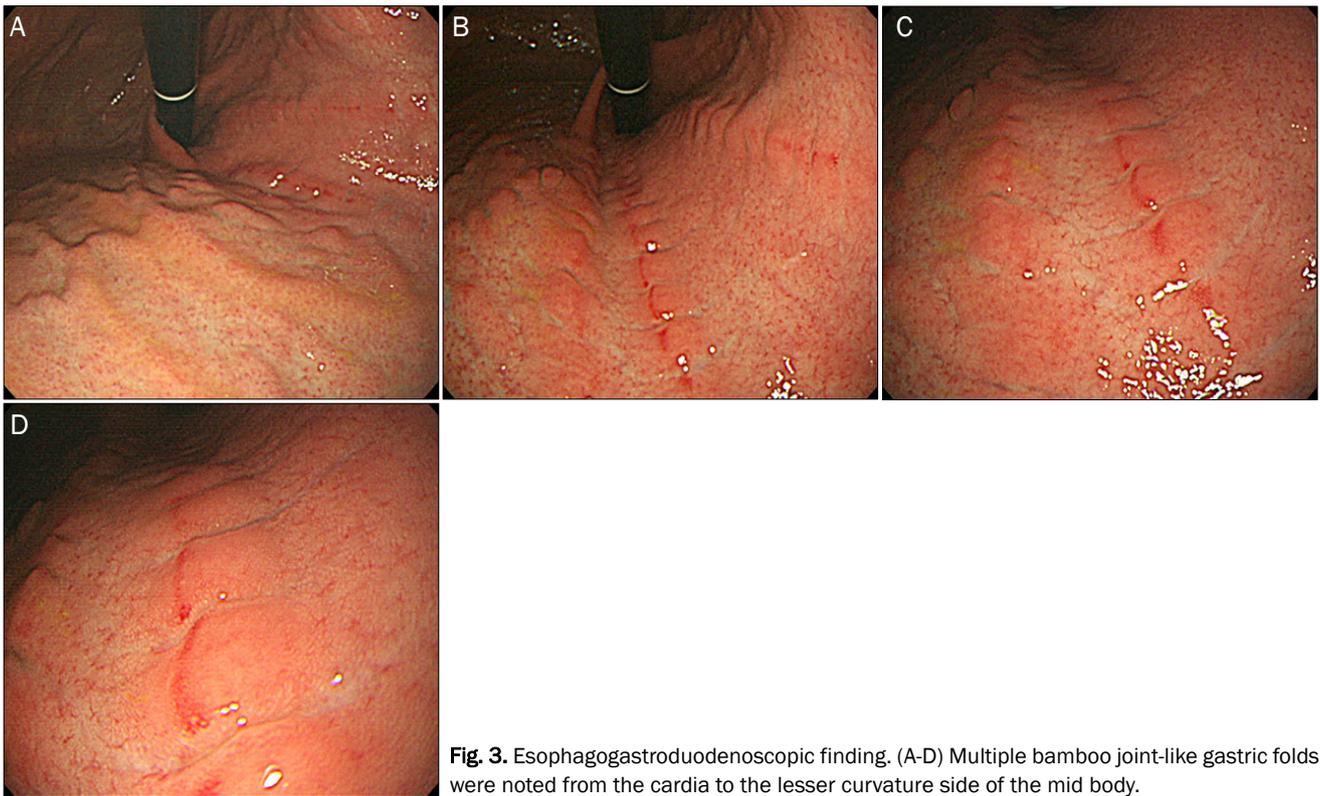


Fig. 3. Esophagogastroduodenoscopic finding. (A-D) Multiple bamboo joint-like gastric folds were noted from the cardia to the lesser curvature side of the mid body.

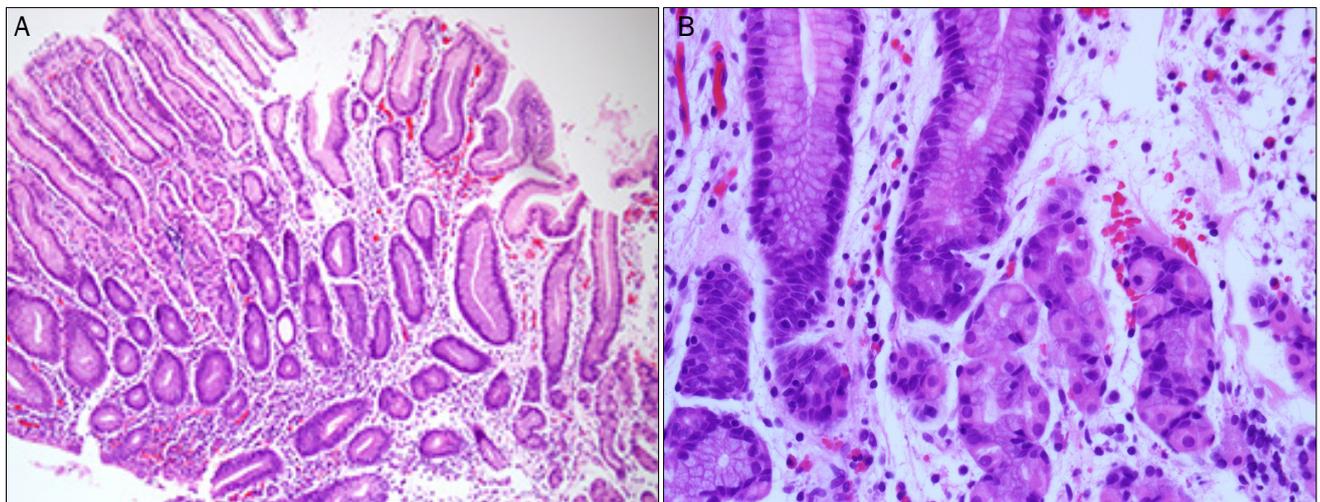


Fig. 4. Pathologic finding of gastric folds. The gastric mucosa showing multifocal aggregates of mixed inflammatory cells in the lamina propria without granuloma (A: H&E, $\times 100$, B: H&E, $\times 400$).

longitudinal folds traversed by erosive fissures or linear furrows.¹² The granuloma in pathologic finding of these gastric lesions was noted in 23.2%, indicating a low biopsy sensitivity.¹³

To date, there have been several reports regarding gastric bamboo joint-like appearance in CD patients; however, the images in these reports were insufficient to be conclusive.

Our endoscopic images of CD patient with gastric involvement reveals the gastric bamboo joint-like appearance very clearly, enough to remind the experts and educate the trainees. Similar to our case report, many previous studies reported that microscopic findings of gastric involvement had a low sensitivity. Therefore, pathologic findings of gastric involvement lesion have a limited diagnostic value in CD

patients.

In conclusion, CD diagnosis can be made based on both clinical and endoscopic characteristics. Not only typical colonoscopic findings but also gastric bamboo joint-like appearance may be helpful in diagnosing CD. Therefore, this case report may be useful—providing educational value—in clinical practice.

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