



Case Report

Non-Steroidal Anti-Inflammatory Drug-Induced Enteropathy in the Elderly

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SUMMARY

Non-steroidal anti-inflammatory drugs (NSAIDs) can damage the gastrointestinal tract and cause severe complications, such as NSAID-induced enteropathy, which although reported previously, is easily ignored. NSAIDs are commonly used in the elderly owing to higher incidence of comorbidities. NSAID-induced enteropathy is more important than the previously reported cases. We report a case of an 86-year-old woman who presented with persistent iron deficiency anemia with a positive fecal occult blood test. Initial esophagogastroduodenoscopy and colonoscopy showed no active bleeding. Although proton pump inhibitors were used, the anemia was refractory. Capsule enteroscopy revealed several circular and linear ulcers in the jejunum and ileum. NSAID-induced ulcers were considered. After discontinuing NSAIDs, the anemia improved gradually. In view of this case, we report our experience of typical NSAID-induced enteropathy with a successful clinical outcome.

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1. Introduction

Non-steroidal anti-inflammatory drugs (NSAIDs) can damage the gastrointestinal (GI) tract and cause severe complications, such as peptic ulcer, GI bleeding, and perforation.¹ NSAID-induced enteropathy has been reported previously, but has been ignored.² NSAIDs demonstrates anti-inflammatory, analgesic, and anti-platelet effects in clinical practice. They are commonly used in the elderly; however, they cause serious complications.³ With an increase in the elderly population aged 65 years and older, worldwide as well as in Taiwan, NSAIDs are commonly used in the elderly due to higher cases of comorbidity. At present, NSAID-induced enteropathy should be considered more important than the previously reported cases.⁴

2. Case report

An 86-year-old woman had a medical history of headache and osteoarthritis for a long time. Diclofenac sodium, an NSAID, was at times used to control the symptoms. She had complained of dizziness and general malaise with passage of intermittent tarry stools in the recent 2 months. Hemography revealed microcytic anemia (MCV: 79 fl; hemoglobin: 9.3 gm/dL). Esophagogastroduodenoscopy showed the presence of a gastric ulcer in the antrum without active bleeding. Colonoscopy showed only one hyperplastic polyp in the rectum. Lansoprazole 30 mg was administered daily to the patient for treatment of the gastric ulcer. However, she continued to present tarry stool passage in spite of treatment for 2 months. Her labora-

tory data showed persistent anemia (hemoglobin, 9.2 gm/dL). Repeat esophagogastroduodenoscopy showed healed ulcer in the antrum. Occult GI bleeding was impressed. However, technetium-99m-labeled red blood cell bleeding scans revealed no evidence of active GI bleeding. Due to small intestine bleeding, capsule endoscopy was performed, which revealed several linear, circular ulcers in the jejunum and ileum. Finally, NSAID-induced enteropathy was diagnosed (Fig. 1). The patient's hemoglobin level improved dramatically and increased to 11.5 gm/dL after discontinuing diclofenac in 2 weeks.



Fig. 1. Several linear and circular ulcers in jejunum and ileum, NSAID-induced enteropathy was diagnosed.

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3. Discussion

More than 30 million individuals take NSAIDs daily, and the number has increased significantly.¹ NSAIDs are commonly used in the elderly because of the higher incidence of comorbidities, such as osteoarthritis, neuromuscular or musculoskeletal disorders, and headache.³ By 2020, it is estimated that more than 16% of the population in the United States will be more than 65 years old.⁵ In the elderly, high risk of peptic ulcer disease, gastroesophageal reflux disease, pill-induced esophagitis, and other complications related to the usage of NSAIDs has been reported.⁵ Enteropathy in the elderly is important. In a study on single-balloon enteroscopy for evaluation of small bowel diseases in the elderly, more than 80% patients reported GI tract bleeding. The findings of small bowel diseases included angiodysplasia (37.5%), diverticulum (25%), ulcer/erosion (23.2%), and tumor (17.9%).⁶ In another study, NSAID-induced enteropathy was found in 9.24% and 7.9% patients in 65–74 years and ≥ 75 years, respectively.⁷ Furthermore, NSAIDs have become a leading cause of hospitalization and may increase the risk of death from NSAID-related complications more than four times.³ NSAIDs increase the risk of GI bleeding by 1.65-fold in individuals < 65 years and 5.5-fold, in those > 65 years, which is higher than that in individuals not taking NSAIDs.⁸

The mechanisms of GI tract injury due to NSAIDs are complex. NSAIDs have acidic properties than can induce direct mucosal injury. However, other mechanisms of GI tract injury by NSAIDs are caused by COX-mediated and COX-independent processes. NSAIDs have the ability to decrease synthesis of mucosal prostaglandins, which defend the GI tract mucosa against injury and ulceration, by stimulating several factors that contribute to normal mucosal integrity.^{1,4}

Although evaluation is easy using the conventional esophagogastroduodenoscopy (EGD), many studies have reported NSAID-induced GI injuries and focused on the stomach and duodenum. It is challenging to evaluate the small intestine using traditional tools, such as EGD or colonoscopy; hence, NSAID-induced enteropathy is easily ignored.² Since the first report of capsule endoscopy in 2000, a breakthrough in the diagnosis of small-bowel bleeding has been

achieved.⁶ Recent advances in GI endoscopy used to assess the small intestine, such as capsule endoscopy, double balloon endoscopy, and single balloon endoscopy, enable direct visualization of the small intestine and check for NSAID-induced enteropathy.^{2,6,9} In our case, the patient suffered from refractory iron deficiency anemia despite proton-channel inhibitors for gastric ulcers and iron supplements. Fortunately, the NSAID-induced enteropathy was diagnosed via capsule endoscopy, and anemia was improved after diagnosis.

In conclusion, persistent anemia and GI bleeding is commonly observed in the elderly. If initial EGD and colonoscopy cannot identify the definite bleeding source of GI bleeding, we must carefully review and check for possible NSAID usage and NSAID-induced enteropathy.

Conflict of interest

None.

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