Chemical Colitis due to Senna (Herbal Medicine) in an Elderly Patient

Yaşlı Bir Olguda Sennaya Bağlı Kimyasal Kolit

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ABSTRACT

Senna is widely used as a laxative, although it has potential side effects. Senna, experimentally, can induce ulcerative colitis and melanosis coli. Chemical colitis can occur as a result of accidental contamination of endoscopes or by intentional or accidental administration of enemas containing various chemicals. Patients present with nonspecific symptoms including abdominal pain, rectal bleeding and/or diarrhea. Agents that are implicated in chemical colitis include alcohol, radiocontrast agents, glutaraldehyde, ergotamine, acetic acid, ammonia, sodium hydroxide, and herbal medicines, etc. There have been few reported cases of senna (herbal medicine)-induced colitis. Here, we described an uncommon case with chemical colitis induced by senna.

Key Words: Colitis, chemical colitis, senna, elderly patient.

ÖZET


Anahtar Kelimeler: Kolit, kimyasal kolit, senna, yaşlı hasta.

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INTRODUCTION

Among the plants that contain anthranoid laxatives, senna (Senna alexandrina or Cassia angustifolia) is the most preferred for constipation. Due to their natural origin, apparent low oral toxicity, effectiveness, and accessibility without a medical prescription, the anthranoid laxatives are a popular remedy for constipation and frequently used abusively. Therefore, it is important to characterize their harmful and/or toxic effects. Among the most frequently used laxatives that are self-administered or prescribed by a physician, senna infusions are considered as osmotic-type laxatives (1). Senna, experimentally, can induce ulcerative colitis and melanosis coli (2). A literature search revealed an association between colitis and senna (3). Laxative-based regimens are more likely to cause flattening of surface epithelial cells, goblet cell depletion and lamina propria edema (1).

There have been several case reports of chemical colitis occurring as a consequence of contamination of endoscopes or tubing by disinfecting solutions and both intentional and accidental exposure to various chemicals, including alcohol, radiocontrast agents, glutaraldehyde, ergotamine, acids/bases, and herbal medicines, etc. (4). Patients with chemical colitis often present with abdominal and rectal pain, hematochezia and diarrhea. Patients are usually afebrile with mild-to-moderate leukocytosis. Endoscopic and histologic findings are also often nonspecific and may mimic ischemic or inflammatory colitis. Clinical presentation ranges from mild, self-limited colitis to strictures and perforations. Most patients demonstrate the resolution of chemical colitis after conservative or medical therapy (5). In the present study, we report an uncommon case with senna-induced chemical colitis.

CASE REPORT

A 69-year-old male suffered from severe diarrhea, abdominal pain and cramping after senna (herbal medicine) usage for constipation. He had used senna juice (200 cc) once a day for 2-3 weeks. He was admitted to our gastroenterology clinic with watery diarrhea (> 10 episodes per day), abdominal pain and cramping. His medical history revealed diabetes mellitus and hypertension for 12 years and he was on regular medication including metformin 1700 mg/day and amlodipine 10 mg/day, but not on any herbal remedy. His physical examination revealed a temperature of 37.4°C, abdominal tenderness and increased bowel sounds. Other system findings were normal. Laboratory tests showed a white blood cell count of 11.4 x 10^9 cells/l (normal: 4.6-10.2), C-reactive protein 8 mg/L (normal: 0-8 mg/L) and sedimentation 12 (normal: 1-20 mm/hour). There were few leukocytes, erythrocytes and mucus in stool microscopy. *Clostridium difficile* toxin A was negative in the stool examination. A colonoscopy revealed hemorrhagic and edematous mucosa with white-coated ulcerations of variable size in the distal sigmoid colon and proximal rectum (Figure 1). Other parts of the colonic mucosa were normal. Biopsies showed severe inflammation of the lamina propria, crypt destruction, capillary dilatation, and neutrophilic infiltration (Figure 2). A control sigmoidoscopy was normal after 10 days of treatment with metronidazole 2 x 500 mg PO. In our case, mucosal injury triggered by senna probably precipitated the mucosal damage and further led to colitis formation.

DISCUSSION

Herbal medicines can be potentially toxic to human health. Senna is an important herbal drug used worldwide for the treatment of constipation and is the most studied anthranoid laxative (6). Senna contains various anthranoids, the most important of which are sennosides A and B, followed by aloe-emodin, emodin and chrysophanol. The sennosides, the main active metabolite of senna, show a very low toxicity in rats, and move...
Through the small intestine as prodrugs and are then metabolized in the large bowel by intestinal bacteria to the active laxative metabolite rhein anthrone (7,8). Overall, senna extracts displayed low toxicity in animal tests following single or repeated administrations (1). Senna, experimentally, induces ulcerative colitis and melanosis coli (2). A literature search revealed an association between colitis and senna. There was a dose-dependent laxative effect beginning at 300 mg/kg per day and above. It was reported that senna components may be carcinogenic in mice and rats, and the chronic use or abuse of this agent resulted in a number of symptoms, such as abdominal pain, nausea and chronic diarrhea (3). Morphologically, the repeated oral administration of senna caused epithelial hyperplasia of the large intestine of all treated groups (9).

Chemical colitis has been reported to occur after the rectal administration of various chemicals, including alcohol, glutaraldehyde, herbal medications, and strong acids/bases, etc. Populations at high risk include individuals with mental illnesses, certain African tribes who use enemas for ritual purposes, and those who use enemas for chronic constipation (5,10). Most of the reported cases of chemical colitis have occurred after accidental contamination of endoscopes with glutaraldehyde and/or hydrogen peroxide or with the use of radiocontrast agents in the setting of obstruction (11). There have been several case reports of chemical colitis resulting from the unintentional administration of the caustic chemicals. Clinical studies from local hospitals in South Africa reported a total of six cases of herbal enema-induced colitis. Most patients presented with rectal bleeding and perianal excoriations and 5 patients had peritonitis (5). One patient was treated conservatively, while the remaining patients required colostomy (10).

Herbal medicine-induced chemical colitis is rare, but important, because it might cause serious symptoms. Most patients with chemically induced colitis present with nonspecific symptoms including abdominal and rectal pain, hematochezia and diarrhea. Endoscopic evaluation usually reveals non-specific findings ranging from edema to friable, hemorrhagic or necrotic mucosa with ulcerations. The histologic features are similar among most patients and range from mild erythema to extensive mucosal sloughing and necrosis. However, specific clinical presentations of chemical-induced colitis depend on the type of chemical agent used. Once the diagnosis is made, treatments include discontinuation of exposure of the inciting chemical, bowel rest, broad-spectrum antibiotics, and possible use of steroids. Endoscopic and surgical intervention is occasionally indicated in the setting of perforation or stricture (5). Our case was admitted for severe abdominal pain and diarrhea after using senna fluid. The colonoscopy and biopsies were consistent with colitis. It was accepted as chemical colitis due to senna fluid on the basis of this information.

In conclusion, a correct diagnosis of chemical colitis in any patient who presents with colitis of unknown...
etiology depends on a high index of suspicion, awareness of the possible chemical culprits and a detailed history. Physicians should keep in mind chemical colitis in elderly patients suffering from diarrhea due to senna (herbal medicine).

REFERENCES