A case of mesenteric phlebosclerosis induced by long-term use of Kampo medicine

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Abstract

Herein we describe a 42-year-old female with mesenteric phlebosclerosis of her ascending colon. She visited our hospital due to abdominal pain, and computed tomography revealed edematous ascending colon and remarkable calcification of the ileocolic and right colic veins. She had been taking kampo medicine for nearly 20 years, and ‘drug-induced’ mesenteric phlebosclerosis was diagnosed. Treatment with fasting and intravenous infusion therapy did not alleviate the symptom, therefore she underwent resection of the right side of the colon. Subsequent pathological examination confirmed the preoperative diagnosis, and the postoperative recovery was uneventful.

Kampo medicine is frequently used to alleviate multiple symptoms in patients with various medical problems, including gastrointestinal cancers. Although mesenteric phlebosclerosis is a rare condition, this should be considered when patients are on kampo medicine for a long period of time.

Keywords: Kampo, calcification, gardenia fruit, colectomy, SMV

Introduction

Calcification of the mesenteric vein with chronic intestinal ischemia is a rare condition\(^1\), termed mesenteric phlebosclerosis\(^2\). While the underlying mechanism of this disease remains unclear, long-term exposure to a specific ingredient of kampo medicine (gardenia fruit) has been implicated due to the increasing use of this medicine by patients with malignant disease\(^2\), \(^3\). The present report describes a patient who had used kampo medicine for nearly 20 years presenting at our hospital with ‘drug-induced’ mesenteric phlebosclerosis, which was treated by surgical resection after conservative treatment.

Case presentation

The patient was a 42-year-old female with medical history of essential tremor. She had taken Orengedokuto (a kampo medicine) for nearly 20 years. She presented with intermittent upper abdominal pain lasting for the previous 24 hours. Physical examination revealed a slightly reduced bowel sound and tenderness from the upper abdomen to right lower abdomen.

Blood tests revealed a remarkably elevated white blood cell count (21050 count/dL, normal range: 4200–7800) and serum C-reactive protein (10.38 mg/dL, normal range: <0.14). Computed tomography showed a thickened intestinal wall of the ascending colon and right side of the transverse colon with retention of feces at the oral side of the lesion. Calcification of the ileocolic vein and right colic vein was also evident (Fig. 1A, 1B). An endoscopy revealed pale and dark intestinal mucosa at the transverse colon (Fig. 1C); however, the remainder of the oral side of the transverse colon could not be observed due to feces. Three days after admission with nothing per oral, an ileostomy was created due to continued severe abdominal pain.

The clinical symptoms and blood test abnormalities persisted, and two weeks after admission the patient underwent a right hemicolecction. The resected ascending colon was edematous and accompanied by ulceration (Fig. 2A), while thick fibrosis at the submucosal layer and calcification of the vein was observed near the ulceration on microscopic observation (Fig. 2B, 2C). Four days after surgery, she resumed oral food intake and was discharged soon thereafter.
Mesenteric phlebosclerosis

Fig. 1 (A&B) Abdominal computed tomography shows calcification of the veins (arrow) that drain blood from the ascending and transverse colon. (C) Endoscopy shows the edema and erosion (arrow) of the transverse colon. The color of the mucosa was dark (arrowhead).

Fig. 2 (A) Erosions and ulcers are evident at the ascending colon (arrowhead). The transverse colon also shows erosion, although the edema of the intestinal wall is moderate (arrow) (B) Increased connective tissue is evident at the mucosal layer (arrowhead). (C) Fibrous hypertrophy and calcification are observed at the wall of the vein, in association with stenosis of the lumen (arrow).
Discussion

Mesenteric phlebosclerosis is a rare condition of unclear etiology. The disease entity was recently proposed and reported mainly in Japanese patients, being characterized clinically by calcification of the mesenteric vein in the affected intestine, and chronic intestinal ischemia. Mesenteric phlebosclerosis has been linked to the intake of kampo medicine, and particularly gardenia fruit; however, the long-term use of similar herbal medicines is common practice in Japan with only a small fraction of these patients developing mesenteric phlebosclerosis. Thus, we also hypothesize that an additional or different factor is required for the disease development.

The initial treatment of symptomatic mesenteric phlebosclerosis is cessation of the causative medicine and fasting; however, worsening of the disease can necessitate surgical resection as in the present case. Although the length of the intestine needing resection is also under debate, it should at least include the affected intestine with ulceration and eminent edema to offer immediate symptom alleviation and safe intestinal anastomosis. In idiopathic mesenteric phlebosclerosis, additional resection of normal intestine with any calcified drainage vein might be justified to prevent future progression of the disease. Of note, such aggressive resection may not be necessary in 'drug-induced' mesenteric phlebosclerosis, because remarkable improvement of calcification has been reported after cessation of the causative drug. We therefore propose that the length of resected intestine should be carefully determined during surgery by carefully observing the intestinal wall and mucosa. These considerations also highlight the importance of thorough history taking, including past herbal medicine use, in the presence of abdominal pain and calcification of mesenteric vein.

Patients with gastrointestinal cancers often use kampo medicine. Accordingly, cases of mesenteric phlebosclerosis might increase in the future with the predicted increase in intestinal malignancies. A recent survey suggested that mesenteric phlebosclerosis occurs in approximately 1% of patients taking kampo medicine for more than 5 years, thus periodic radiological examination could be considered for these high-risk patients.

In conclusion, we experienced a patient with mesenteric phlebosclerosis, treated by surgical resection that further implicated long-term use of kampo medicine in the development of this condition. Further accumulation of cases is necessary to establish recommended treatment options, including the length of intestine to resect.

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