

Case Report

Phlebosclerotic colitis: a rare case report

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Received April 23, 2017; Accepted September 4, 2017; Epub October 15, 2017; Published October 30, 2017

Abstract: Phlebosclerotic Colitis (PC) is a extremely rare entity of colonic ischemia caused by obstruction of the veins in the intestinal wall and peripheral mesentery. We report a 59-year-old male presented with intermittent abdominal pain of two-month duration. Enhanced CT disclose calcifications of the small mesenteric veins along the ascending colonic wall and edematous thickening of the ascending colonic wall. Colonoscopy shows mucosal hyperemia and edema, gray-blue vein. Microscopic examination shows chronic inflammation in mucosa.

Keywords: Phlebosclerotic colitis, computed tomography, colonoscopy, pathology

Introduction

Ischemic colitis is the most common heterogeneous group diseases of the colon, and is evoked by disturbance of its blood supply [1]. It is usually caused by insufficient perfusion of mesenteric arterial blood flow due to arteriosclerosis, thrombosis, and embolus, and involves left sidecolon. Phlebosclerotic colitis has different clinicopathologic presentations from the classic type of ischemic colitis. It is caused by obstruction of the veins in the colonic wall and adjacent mesentery, due to fibrotic sclerosis and calcification [2]. It involves the ascending colon preferentially. The etiology and pathogenesis of this scarce disease remain unclear. We present a case of phlebosclerotic colitis in a 59-year-old male.

Case report

A 59-year-old Chinese man complained of intermittent abdominal pain that had lasted for almost two months. Abdominal computed tomography (CT) coronal images (**Figure 1A**) and sagittal images (**Figure 1B**) with contrast enhancement showed multiple tortuous threadlike calcifications within the ascending colonic wall and adjacent mesentery, as well as edematous thickening of the colonic wall. A colonoscopic examination revealed mucosal hyperemia and edema, gray-blue vein throughout the ascend-

ing colon (**Figure 2A**). Microscopic examination showed lymphoid cell infiltration and eosinophilic inflammation in mucosa (**Figure 2B**). On the basis of the patient's clinical presentation, combined with the radiologic, endoscopic and histologic findings, phlebosclerotic colitis was diagnosed. This patient was treated conservatively with total parenteral nutrition for two weeks, and was discharged after complete resolution of his symptoms. He had no recurrent symptoms during the subsequent one-year follow-up.

Discussion

Ischemic colitis is one of the most common diseases of the colon, and is caused by disturbance of its blood supply. Phlebosclerotic colitis is an extremely rare type of ischemic colitis [3]. It is different from the typical ischemic colitis in clinicopathologic presentations. It is known to be characterized by a thickening of the colonic wall with fibrosis, hyalinization, and calcification of the affected colono-mesenteric veins, resulting in disturbed venous return from the colon, and is most commonly seen in the ascending colon [4].

Most of the reported phlebosclerotic colitis cases occurred in patients of Asian background [5]. The age at the initial recognition has ranged between 30 and 80 years, with the majority of

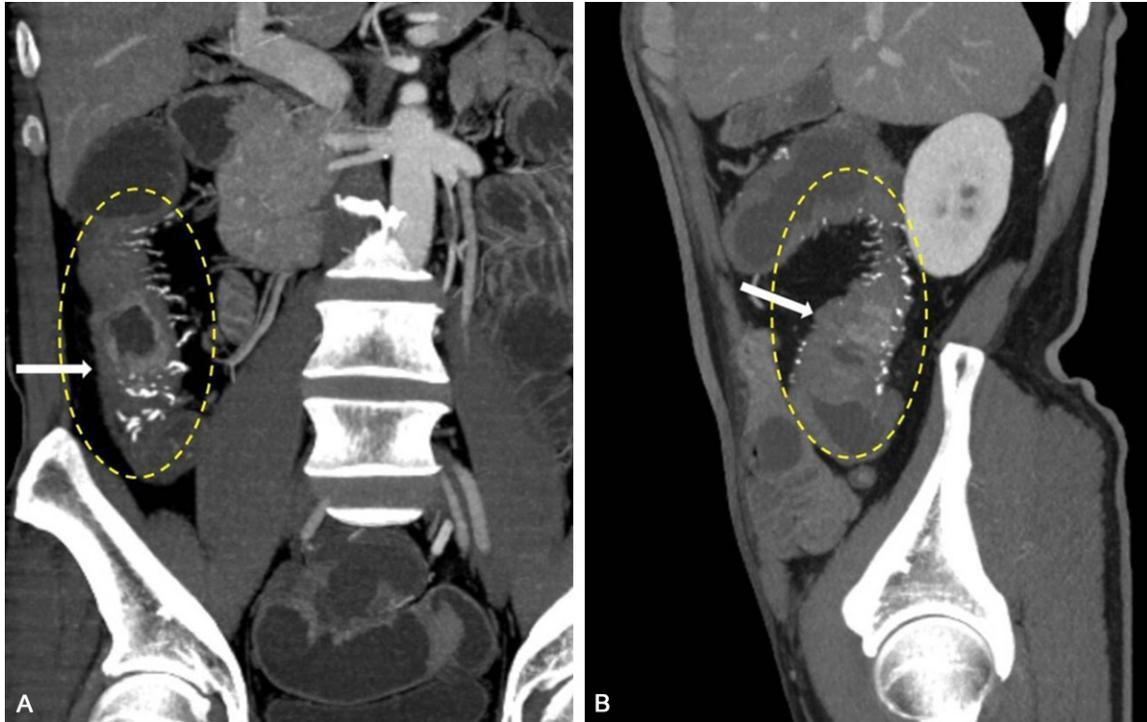


Figure 1. Enhanced CT reconstructed coronal image (A) and sagittal image (B) disclose calcifications (yellow dashed circles) of the small mesenteric veins along the ascending colonic wall and edematous thickening (arrows) of the ascending colonic wall.

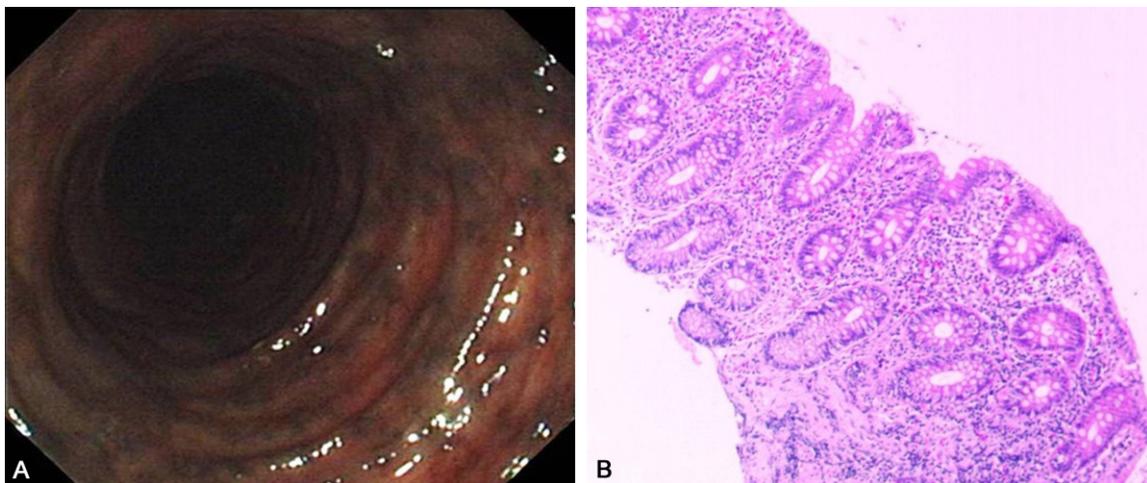


Figure 2. Colonoscopy (A) shows mucosal hyperemia and edema, gray-blue vein. Microscopic examination (B) shows lymphoid cell infiltration and eosinophilic inflammation in mucosa.

patients being in the fifth and sixth decades of life [6]. The clinical symptoms of phlebosclerotic colitis is that of long history of atypical recurrent abdominal pain, diarrhea, nausea, vomiting, ileus and bloody stool and depend on the severity of the disease [7]. A summary of the patient and disease characteristics is shown in

Table 1. The etiology and pathogenesis of this disease has not yet been clearly defined. Calcifications are usually found alongside the colonic and adjacent mesenteric vein, and phlebosclerosis may be an adaptive change in the venous wall to prolonged and increased venous blood pressure, but it remains more detective.

Radiologic, endoscopic and histologic findings of PC

Table 1. Summary of previously reported cases of patients with phlebosclerotic colitis from 1991 to 2016

Demographic/characteristic	Value	%
Gender (n=75)		
Male	42	56.0
Female	33	44.0
Age, years (n=75)		
Median (range)	58 (33-77)	
Chief complaint (n=72)		
Abdominal pain	52	72.2
Diarrhea	29	40.3
Nausea/vomiting	21	29.2
Location of lesions (n=72)		
Limited to cecum and ascending colon	5	6.9
Continuously extended to transverse colon	35	48.6
Continuously extended to descending and sigmoid colon	32	44.4
Continuously extended to rectum	2	2.8
Treatment (n=75)		
Conservative treatment	34	45.3
Surgical intervention	37	49.3

The clinical diagnosis of phlebosclerotic colitis usually achieved to be based on a combination of physical symptoms, clinical findings along with the results of radiologic and endoscopic studies [8]. The radiographic features of phlebosclerotic colitis are characteristic for a definite diagnosis. They are as follows: (1) plain abdominal radiographs showing multiple tortuous forkhead-like or threadlike calcifications perpendicular to the longaxis of the colonic walls in the region of the right side of the colon, and may extend into the transverse colon; (2) CT scans demonstrating a well-thickened colonic wall with numerous serpiginous venous calcifications within the bowel wall and adjacent mesentery; (3) barium enema disclosing haustral disappearance, luminal irregularities, rigidity, narrowing, and thumb-printing in the right hemicolon; (4) colonoscopic findings of dark purple and edematous mucosa, erosion, ulceration and luminal narrowing in the right hemicolon [3, 9].

The phlebosclerotic colitis should be distinguished from mucinous adenocarcinoma, leiomyosarcoma, and schistosomiasis japonica finding according to the CT features of colonic wall thickening with calcifications. Medical treatments have not been successful in most of the reported cases, patients who present with the complication of perforation and obstruction

should undergo surgical resection and close follow-up could be taken if there are no signs of bowel compromise [10].

In conclusion, phlebosclerotic colitis is rare but taken distinct clinical, imaging, and histopathological features together can make the diagnosis more confidently. Awareness of the unusual condition may be expected to inspire more explorations of the pathogenesis in the future.

Disclosure of conflict of interest

None.

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