Enterocolic lymphocytic phlebitis: an unusual cause of abdominal complaints

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Enterocolic lymphocytic phlebitis (ELP) is a rare disease of unknown etiology involving most often the intramural and mesenteric small and medium-sized veins of the gastrointestinal tract. The diagnosis of the disorder is based on the histopathological examination of a surgical specimen as endoscopically obtained diagnostic material is usually too superficial. Clinical manifestation of ELP most frequently is characterized by acute symptoms, such as acute abdomen, signs suggesting acute appendicitis, gastrointestinal hemorrhage, sometimes it manifests as chronic gastrointestinal complaints. We report, to our knowledge for the first time in Poland, a case of ELP with clinical symptoms pointing to acute appendicitis, on laparoscopy manifesting as a tumorous mass in the colonic wall with an unchanged appendix.

Key words: enterocolic lymphocytic phlebitis, mesenteric veno-occlusive disease, lymphocytic vasculitis.

Introduction

Enterocolic lymphocytic phlebitis (ELP), also called mesenteric veno-occlusive disease (MVOD) is a rare disorder, which affects typically small and medium-sized intramural and mesenteric veins of the intestines, most commonly – of the large bowel [1]. The disease is characterized by sparing of arterial and lymph vessels. Inflammatory changes of the veins occur most frequently in the right colon, although rare cases of other locations of the disease were reported [2, 3]. Inflammation of the vessel wall is usually complicated by thrombosis, thus blood flow disturbances manifesting as ischemic complications frequently result in clinical symptoms of the acute abdomen. The clinical picture with abdominal acute pain, peritoneal signs at physical examination, nausea and vomiting, diarrhea, sometimes bloody, is most common in the course of ELP [2, 4-9]. Due to the frequent location in the right colon, it simulates acute appendicitis. Rarely, the disease manifests as a chronic dysfunction of the organ occupied by inflammatory changes or abdominal mass only [3, 10-12].

The ELP has been known for about 35 years [4, 13] as a disease occurring very rarely (to our knowledge, about 50 cases reported worldwide; no case has been described in Poland yet) of unexplained etiopathogenesis. The case reported by us supports the adequacy of the other name used for designation of the disease, idiopathic colonic phlebitis as ELP has developed in a healthy man, without any previous diseases, risk factors for thrombosis or any drug/treatment history.

Case report

Clinical history

A 35-year-old Caucasian male was admitted to the Chair and Clinic of General and Gastroenterological Surgery of the Jagiellonian University, *Collegium*

Medicum with symptoms pointing to acute appendicitis: acute pain localized in the right lower abdomen lasting for two days accompanied by vomiting and diarrhea. Physical examination revealed the acute abdomen symptoms only: tenderness and pain of the abdomen, positive Blumberg's and Rowsing's signs. The results of basic laboratory analyses indicated inflammation and resulted from dehydration: white blood cell (WBC) 14.400 (elevated neutrophilic leukocytosis), hemoglobin (Hb) 18.9 g/dl (thereafter, Hb level normalized during hospitalization). Minimally prolonged activated partial thromboplastin time (APTT) (37.7 s) and decrease in prothrombin time (PT) (INR 0.86) excluded mesenteric venous thrombosis as primary etiology of the symptoms. The results of other laboratory tests (Na and K levels, HCT, PLT, amylase, lipase, urea, creatinine, bilirubin, ethyl alcohol) were unremarkable. The ultrasound examination of the abdominal cavity revealed a small amount of peritoneal effusion and fusion of intestines above the right iliac crest. On laparoscopy, the appendix was unchanged, whereas the cecum and ascending colon appeared abnormal, with thickening of the walls and tumorous mass. Due to a suspicion of Crohn's disease, the right hemicolectomy was performed. The surgical hemicolectomy specimen was fixed in formalin solution and sent to the Department of Pathomorphology.

On the 3rd day after surgery, because of symptoms pointing to intraabdominal bleeding, re-laparotomy was performed in the patient with evacuation of clots and the hemolyzed blood from the peritoneal cavity. During that procedure, no signs of the recent hemorrhage were found. The course thereafter was uneventful and the patient was discharged from the clinic in good general condition on the 11th day after the first surgery.

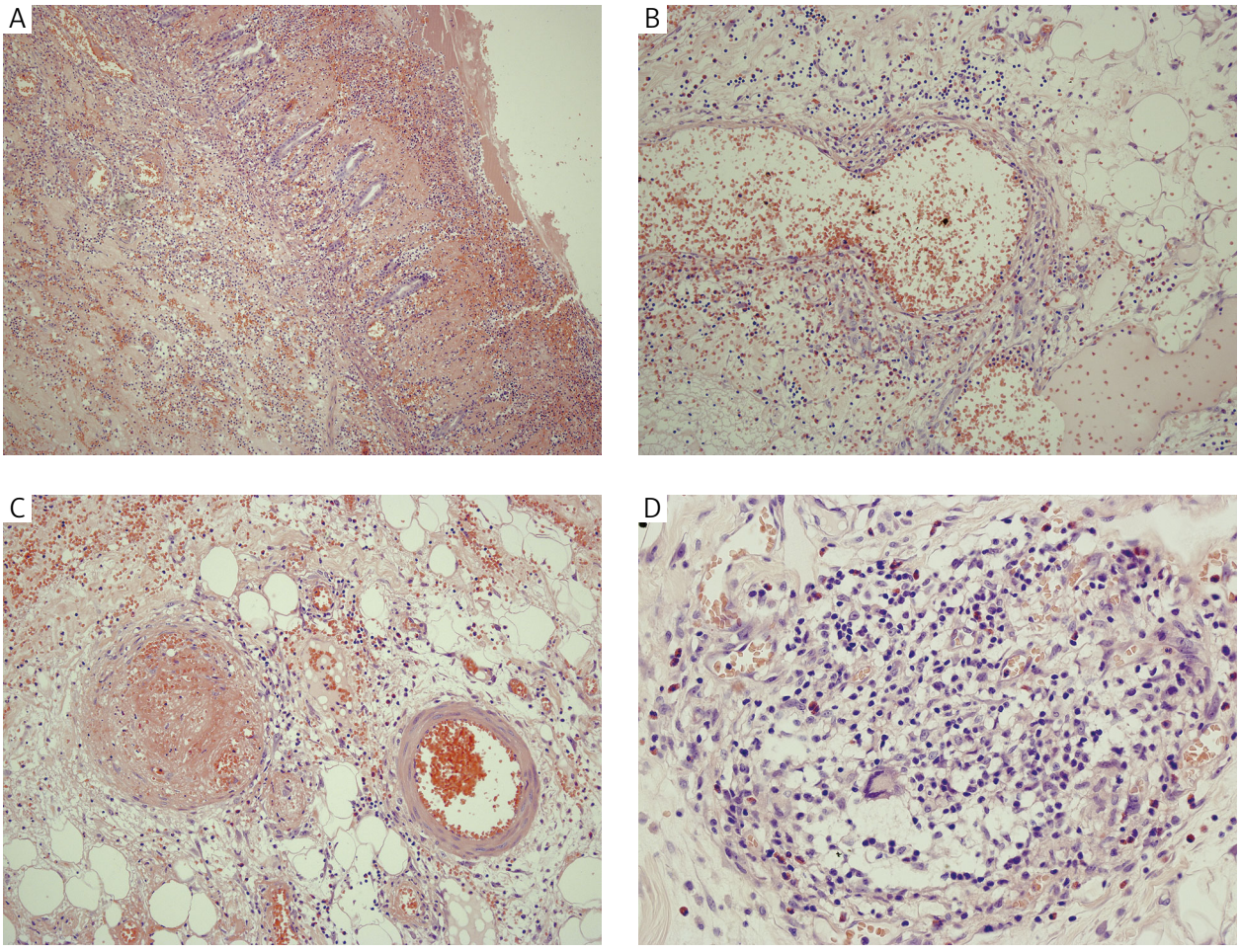

Fig. 1. A – recent necrosis in the section from tumorous lesion of the cecum and ascending colon. HE, objective magnification 10×. B – small submucosal vein in the necrotic and edematous colonic lesion with lymphocytic infiltrate in the vicinity and in the wall of the vein. HE, objective magnification 20×. C – subserosal vein in the necrotic area of the colon with the lumen occluded by the recent thrombus, with mild necrosis of the vascular wall accompanied by lymphocytic infiltrate. On the right, a small artery is visible with no inflammatory changes. HE, objective magnification 20×. D – submucosal vein of the viable colonic wall. The wall structure and the lumen of the vein are completely blurred by abundant lymphocytic infiltrate, with few histiocytes and the presence of a single giant multinucleated cell. HE, objective magnification 40×

No recurrence or other complications were noted for the 18-month follow-up of the patient.

Pathological examination

In the surgical right hemicolectomy specimen, in the cecum and ascending colon (25 mm from the Bauhin's valve) transmural tumorous thickening was visible, 5 cm in maximal dimension, covered by dirty-red, velvety mucosa with flattened rugs. On the cross section, the mass was homogenous, grayish-purple, with a blurred structure of the colonic wall. The wall of the terminal ileum (6 cm-long segment) was unremarkable; the mucosal folds of the colon in the vicinity of the above-described lesion and at some distance from it were slightly thicker with some stiffness.

Histologically, in sections from the tumorous lesion, recent ischemic and partially hemorrhagic necrosis was found concomitant with marked edema and superficial ulceration (Fig. 1 A). The necrosis was transmural focally with mild fibrinous serosal exudate. Many small veins of submucosa, muscularis propria and subserosa presented with circumferential or crescentic inflammatory infiltrate of the walls and in their surroundings, varying in intensity, abundant or scarce (Fig. 1 B). In some affected vessels thromboses, focal mild necrosis of the walls and myointimal proliferation were found (Fig. 1 C). Inflammatory infiltrates were composed almost exclusively of small lymphocytes, with only few histiocytes, in a single vein with the presence of giant multinucleated cells (Fig. 1 D). The arteries and lymph vessels were normal, not affected by inflammation (Figs. 1 C, 2 A). The cuff lymphocytic infiltrates of intramural veins sometimes with thrombi and myointimal proliferation were visible in numerous sections obtained from the

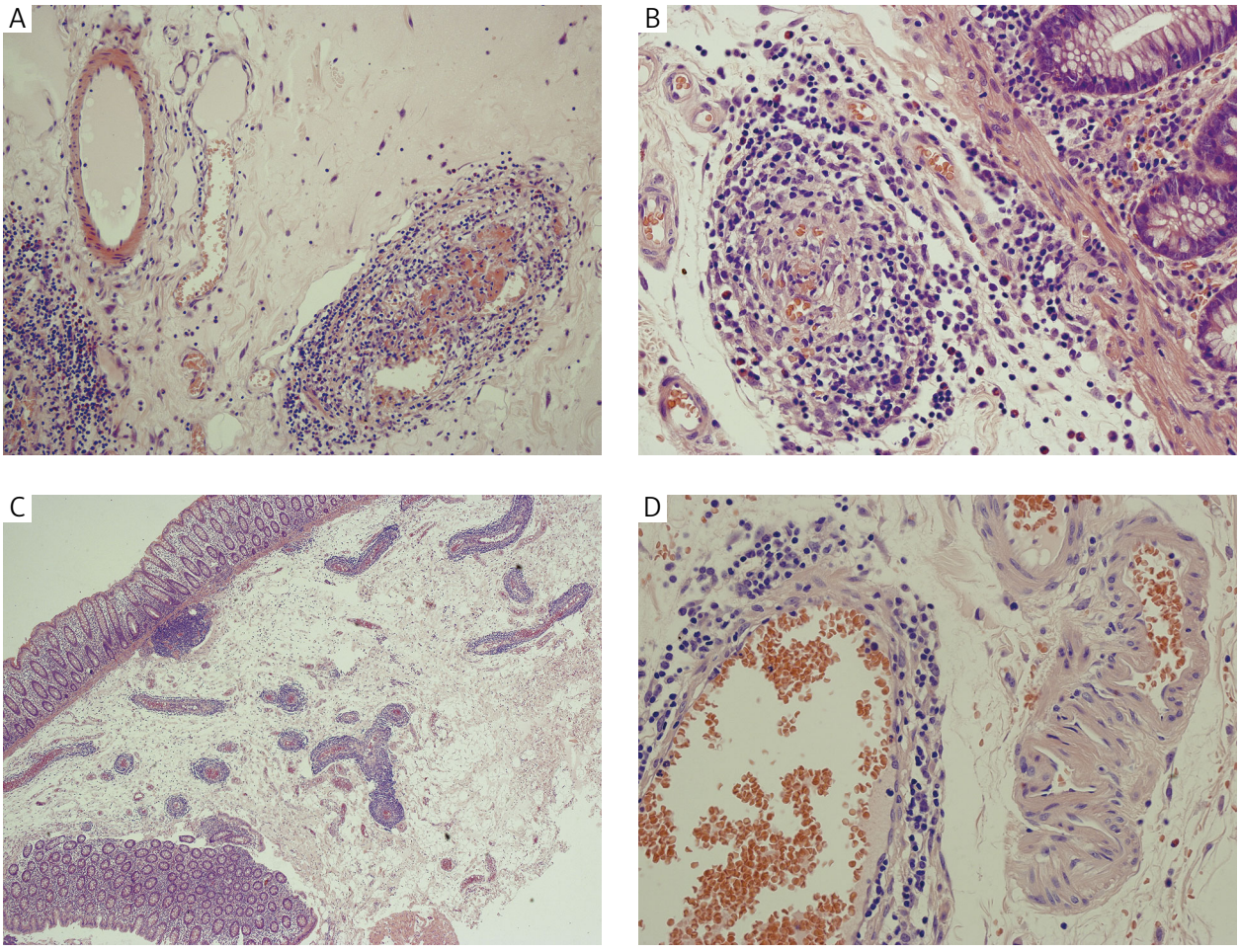

Fig. 2. A– a section from the viable portion of the ascending colon with two veins embedded in abundant lymphocytic infiltrate. A small artery and a lymph vessel are visible, not affected by inflammation. HE, objective magnification 20×. B – a small submucosal vein in the surgical margin of the colon with mild myointimal proliferation resulting in narrowing of the lumen and abundant lymphocytic infiltrate. HE, objective magnification 40×. C – at low magnification, in a specimen from the surgical margin of the colon, numerous small submucosal veins are visible with abundant cuff lymphocytic infiltrates. HE, objective magnification 4×. D – Bauhin's valve region – a submucosal vein affected by lymphocytic inflammation; on the right – two small arteries with no inflammatory infiltrate. HE, objective magnification 40×

remaining colonic wall, not affected by necrosis, also in the surgical colonic margin (Figs. 2 B, 2 C), Bauhin's valve (Fig. 2 D) and in the appendiceal wall, whereas no such lesions were found in the surgical margin of the terminal ileum segment. Numerous lymph nodes of the ileo-cecal region and at the wall of the ascending colon appeared strongly congested and with non-significant reactive changes.

The histological diagnosis was enterocolic lymphocytic phlebitis (mesenteric veno-occlusive disease) (No. 1701640).

Discussion

The ELP cases, reported also as necrotizing and giant cell granulomatous phlebitis, idiopathic myointimal hyperplasia of mesenteric veins, mesenteric inflammatory veno-occlusive disease (MIVOD), necrotizing phlebitis, intramural mesenteric venulitis and idiopathic colonic phlebitis are rare, however, they may be underdiagnosed as endoscopy specimens are usually non-diagnostic [3] due to deep intramural location of the changed veins.

The disease affects both women and men, usually middle-aged and older adults [1-10, 12], it rarely occurs in young adults (the youngest patient reported was 25 years old [11]). The patients present typically with either acute abdomen symptoms or chronic abdominal complaints, with frequent gastrointestinal hemorrhage or tumor-like mass appearance due to ischemic damage to the intestinal wall [1-12].

The ischemic complications result from damage to the intestinal intramural veins mediated by lymphocytes, the T cells mainly of cytotoxic lineage [1, 3, 5, 6, 12]. A trigger of the injurious reaction of these cells to vein walls is unknown. An association with some drugs (e.g. Venoruton) was suggested but no proof was found for such etiology as in many patients with ELP reported in the literature, no history of any drug was found [1, 7, 11]. On the other hand, in some patients, the abnormal immune reaction with dysregulated activation of T lymphocytes may be triggered by any drug as single cases of ELP [12] were reported to co-occur with lymphocytic colitis, for which infectious agents and drugs were proposed as possible etiopathological factors.

The ELP has to be distinguished from other disorders being known to manifest or be complicated by inflammatory involvement of the vessels of the gastrointestinal tract [14]. Histological differential diagnosis includes Behcet's disease, vasculitis in the course of systemic immune diseases, e.g. SLE, secondary vasculitis, spontaneous thrombosis of the mesenteric veins and hypersensitivity reactions. The diagnosis is usually easy, as in diseases other than ELP, the arterial vessels are frequently involved, the inflammation of vessels is more systemic rather than localized, and/or the cellular composition of inflammatory infiltrate differs, with the presence of granulocytes, whereas in ELP the infiltrate is composed of mononuclear cells with small lymphocytes prevailing.

Lymphocytic perivenular circumferential or crescentic infiltrates, occurring both in ischemic and viable bowel segments are characteristic of ELP [1, 4, 5]. The presence of variable histological changes in ELP, lymphocytic infiltrates only or with myointimal hyperplasia of the veins and thrombosis, granulomatous vasculitis seems to depend on the stage of the pathological changes [1].

In endoscopic biopsies, the pathological hallmarks of ELP are usually undetectable because of their deep intramural location. Thus, the treatment mode is surgical resection, the diagnosis of the disease is established after the surgery, and data on conservative treatment do not exist. The disease seems to be self-limiting as the post-surgery follow-up of the patients is usually with no complications, even in cases with positive surgical margins [1, 4, 6, 11]. The uncomplicated course was also observed in our case, in which the surgical margin of the colon was affected by lymphocytic phlebitis.

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