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CASE REPORT

Refractory and Active Ulcerative Colitis Complicated by Venous Thrombosis: a Case Report[△]

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ULKERATIVE colitis is a chronic inflammatory disease characterized by diffuse mucosal inflammation involving the rectum and extending proximally to involve all or part of the colon. A step-up approach for medical therapy is routinely applied, from 5-aminosalicylic acid (ASA) compounds, corticosteroids, immunomodulators, and biologics.¹ Thrombosis, mainly venous, is a rare and well-recognized extra-intestinal manifestation of inflammatory bowel disease.² In this article, we report the use of thrombolytic and antithrombotic therapy for the venous thrombosis in a 55-year-old male patient with refractory and active ulcerative colitis with excellent outcome.

CASE DESCRIPTION

A 55-year-old man who had no family history of ulcerative colitis, coronary heart disease, or thromboembolism

was diagnosed with ulcerative colitis in the year of 2002. Despite the upgraded treatment from 5-ASA compounds to corticosteroids, the diseased region gradually enlarged from the rectum, sigmoid, the left colon to the transverse colon (Figs. 1, 2). Laboratory test showed platelets counts at $340 \times 10^9/L$, $371 \times 10^9/L$, and $477 \times 10^9/L$ in 3 measurements. Since April 2012, he had been having 8-10 watery stools every day, sometimes with blood. Colonoscopy showed the mucosa was successively hemorrhagic, edematous and ulcerated with sporadic inflammatory polyps beyond the transverse colon near splenic flexure.

The condition of the patient improved after oral administration of steroids but worsened when steroids were stopped. Considered as steroid-dependent, he started to take 100 mg azathioprine and the dose of prednisolone was increased to 40 mg. After two months of treatment, he still had 5-8 bloody and watery stools per day. Since December 2012, he had shifted to be treated with methotrexate and joined an experimental study on AnDeKang adsorption blood purifier, after which the stool became better.

Because of flare up of ulcerative colitis from July 2013, he started to have frequent blood-stained and watery stools again, more than 10 times daily with a complaint of abdominal pain and swelling of the left lower limb. He was

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admitted to Third Affiliated Hospital of Guangzhou Medical College. Laboratory test showed a rise in high-sensitivity C-reactive protein (hs-CRP) to >15 mg/L and in erythrocyte sedimentation rate (ESR) to 26 mm/hour. The physical examination showed pitting edema and pain at the left lower limb below the knee joint. Duplex ultrasonography revealed no flow in the left common iliac artery, external iliac, common femoral, superficial femoral, and popliteal veins (Fig. 3). Catheter directed thrombolysis of popliteal vein and common iliac vein was performed. Laboratory data including blood routine and blood coagulation were normal. The patient, after the discharge, was treated conservatively with warfarin 2.5

mg/day. He received thrombolysis, vascular intervention and anticoagulant, with an additional expectation that his colitis would benefit from this treatment and blood-stained stools and abdominal pain became stable, besides, the thrombosis of the left lower limb was cured. In follow-up, the patient had been treated with warfarin 2.5 mg/day and mesalazine (Etiasa) 3 g/day until September 2014. The blood-stained stools and abdominal pain were fully controlled. Colonoscopy showed that the mucosa was distributed sporadically with inflammatory polyps and partly congestive and edematous beyond the transverse colon (Fig. 1) with normal blood routine result, hs-CRP, and ESR.

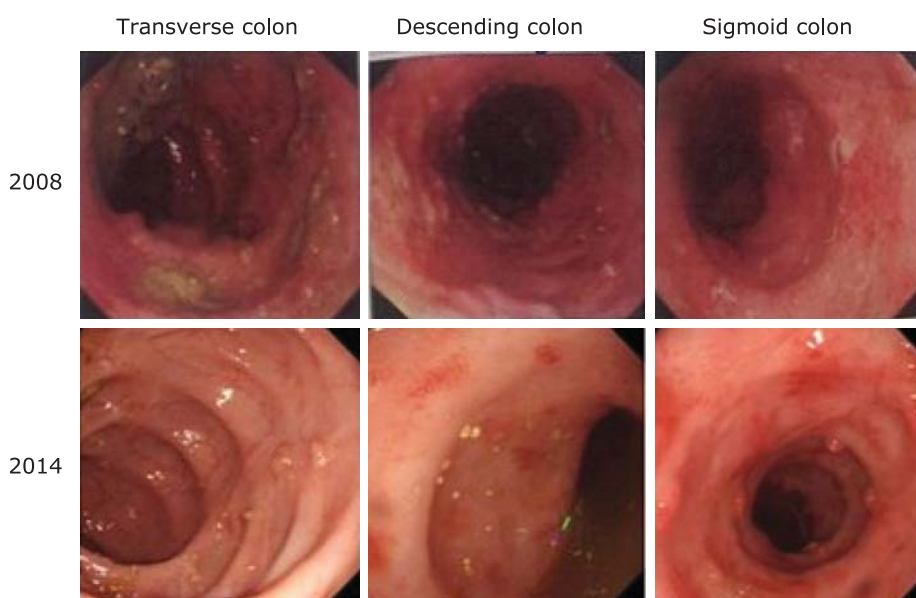


Figure 1. Colonoscopy in 2008 of a 55-year-old male patient of ulcerative colitis shows that the mucosa is successively hemorrhagic, edematous and ulcerated with sporadic inflammatory polyps beyond the transverse colon nearly splenic flexure. Colonoscopy in 2014 shows that the mucosa is distributed sporadically with inflammatory polyps and partly congestive and edematous beyond the transverse colon.

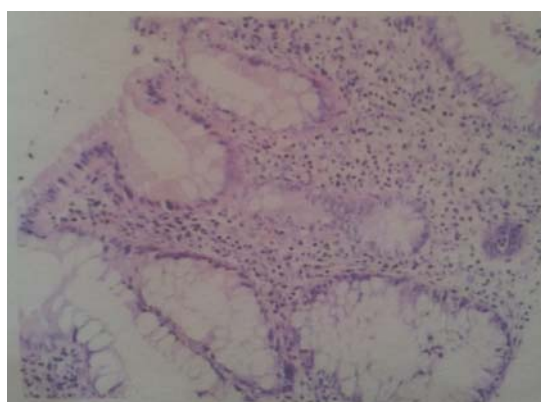


Figure 2. Histopathology of the colonic mucosa shows inflammatory cell infiltration of neutrophils, lymphocytes and plasma cells, and crypt atrophy, all typical features of ulcerative colitis. (HE×400)



Figure 3. Duplex ultrasonography reveals no flow in the left common iliac artery, external iliac, common femoral, superficial femoral, and popliteal veins.

DISCUSSION

Several procoagulant abnormalities have been reported in patients with inflammatory bowel diseases. Thromboembolic complications are three-fold more likely in ulcerative colitis patients than in controls and the relative risk exceeds 15 times during disease flares.³ The thrombi are most often venous in origin rather than arterial, and pulmonary embolism is most commonly caused by deep venous thrombosis. More than half of these cases occur during disease exacerbations.⁴

The etiology of thromboembolic complications in patients with ulcerative colitis is thought to be multifactorial and related to acquired factors as well as inherited risk factors.⁵ Causes of hypercoagulable state in ulcerative colitis are complex, including increased procoagulants, decreased anticoagulants, depressed fibrinolysis, platelet abnormalities, endothelial dysfunction and immunological abnormalities.⁶ Other risk factors that may play a role in thrombotic complications are corticosteroid therapy, dehydration, immobilization, iron deficiency, increased homocysteine, B₁₂ deficiency and infections.⁷ Besides, all components of the coagulation cascade are thought to be involved in the pathogenesis of thromboembolism. The increased levels of tumor necrosis factor, interleukin-6, factor V, factor VIII, fibrinogen, fibrinopeptide A and enhanced expression of CD40 ligand on platelets are thought to play an important role by promoting a prothrombotic state.⁸ Therapy should thus focus on preventing the evolution of hypercoagulable state and providing protection against embolic potential.

In conclusion, in this case the patient had no coronary heart disease or thromboembolism, so we can conclude that venous thrombosis was related to the hypercoagulable state during the ulcerative colitis exacerbations. With thrombolysis, vascular intervention and anticoagulant, the severe active and refractory ulcerative colitis could be

controlled. Though clinical experience in thrombolytic and antithrombotic treatments for ulcerative colitis is very limited, the presence of hypercoagulable conditions should be always considered an indication for thrombolytic and antithrombotic treatments in ulcerative colitis patients.

REFERENCES

1. Navaneethan U, Shen B. Pros and cons of medical management of ulcerative colitis. *Clin Colon Rectal Surg* 2010; 23: 227-38.
2. Wang JY, Terdiman JP, Vittinghoff E, et al. Hospitalized ulcerative colitis patients have an elevated risk of thromboembolic events. *World J Gastroenterol* 2009; 15:927-35.
3. Zitomersky NL, Verhave M, Trenor CC 3rd. Thrombosis and inflammatory bowel disease: a call for improved awareness and prevention. *Inflamm Bowel Dis* 2001; 17:458-70.
4. Khan AB, Bhat N, Hassan A, et al. Aortic thrombosis complicating Crohn disease: an unusual complication. *Can J Surg* 2009; 52:E182-4.
5. Saleh T, Matta F, Yaekoub AY, et al. Risk of venous thromboembolism with inflammatory bowel disease. *Clin Appl Thromb Hemost* 2011; 17:254-8.
6. Biousse V, Ameri A, Bousser MG. Isolated intracranial hypertension the only sign of cerebral venous thrombosis. *Neurology* 1999; 53:1537-42.
7. Twig G, Zandman-Goddard G, Szyper-Kravitz M, et al. Systemic thromboembolism in inflammatory bowel disease: mechanisms and clinical applications. *Ann N Y Acad Sci* 2005; 1051:166-73.
8. Jackson LM, O'Gorman PJ, O'Connell J, et al. Thrombosis in inflammatory bowel disease: clinical setting, procoagulant profile and factor V Leiden. *QJM* 1997; 90:183-8.