Report of a Young Female With Severe Abdominal Pain: Mesenteric Venous Thrombosis

Ahmad Hormati[1,2], Faezeh Alemi[1], Rouhollah Taghavi[3], Mohammadreza Ghasemian[4], Mahsa Besharati[1]

[1] *Department of Internal Medicine, Gastroenterology and Hepatology Diseases Research Center, Qom University of Medical Sciences, Qom, Iran*

[2] *Gastrointestinal and Liver Diseases Research Center, Iran University of Medical Sciences, Tehran, Iran*

[3] *Department of Surgery, Shahid Beheshti Hospital, Qom University of Medical Sciences, Qom, Iran*

[4] *Department of Radiology, Shahid Beheshti Hospital, Qom University of Medical Sciences, Qom, Iran*

Received: 24 Jan. 2019; Accepted: 02 Jul. 2019

Abstract- Mesenteric ischemia is a rare disease with a high rate of mortality because of the non-specific symptoms which lead to delay in diagnosis and intervention. The main symptom is abdominal pain, which has a broad list of differential diagnoses. This study introduces a 17-year-old girl who presents to the emergency department with severe abdominal pain and hematemesis. Further evaluations revealed thrombosis in the mesenteric vein which leads to ischemia and gangrene of the small intestine. Her past medical history and drug history were negative, except she was taking levonorgestrel and cyproterone acetate for a 5 months period. Since long-term treatment with oral contraceptive pills, counts as a risk factor for venous thrombosis, this case seems to be uncommon.

Acta Med Iran 2019;57(7):468-470.

Keywords: Mesenteric venous thrombosis; Mesenteric ischemia; Mesenteric vascular occlusion

Introduction

Mesenteric ischemia occurs due to hypoperfusion of the small intestine. An overall classification divides the disease as acute and chronic (1).

Acute ischemia is defined as a sudden onset hypoperfusion of the small intestine. The underlying pathology may involve arteries or veins. Arterial involvement categorizes into occlusive causes that occur due to an emboli or thrombosis and non-occlusive causes, which are defined as a low blood flow state due to vasoconstriction.

Venous involvement is the result of venous thrombosis which may cause an obstruction in superior mesenteric, inferior mesenteric, splenic or portal veins (1,2).

The underlying diseases that put the patients at risk of acute mesenteric ischemia include malignancies, prior abdominal surgery, and a hypercoagulable state (3).

This article presents a young girl with a complaint of abdominal pain and no underlying disease who was diagnosed as mesenteric ischemia due to venous thrombosis.

Case Report

A 17-year-old girl presented to the emergency department with abdominal pain and vomiting. The pain was sensed in the epigastric region and had progression within past week. Defecations were normal without rectorrhagia. The patient had several outpatient visits during past week and received pain relief and antiemetic.

In past medical history, she mentioned irregular menses which was treated with levonorgestrel and cyproterone acetate from five months ago. She denied any other disease, history of hospitalization or using any medications. Her family history was negative for coagulation disorders.

She presented hematemesis following continuous vomiting in the emergency department. Her vital signs were as below:

Blood pressure: 105/70 mmHg, pulse rate: 89, respiratory rate: 18 and body temperature: 37.6° C.

In physical examination, the abdomen did not look distended, and it was soft with generalized tenderness in palpation, especially in the left lower quadrant. The rest of the examination was unremarkable.

Corresponding Author: F. Alemi
Department of Internal Medicine, Gastroenterology and Hepatology Diseases Research Center, Qom University of Medical Sciences, Qom, Iran
Tel: +98 25 36122053, Fax: +98 25 36122053, E-mail address: faezeh.alemi@gmail.com

Results from laboratory tests are summarized in table 1. Urine dipstick revealed 3+blood and many RBCs were detected on microscopic study.

Table 1. Laboratory tests at the time of admission

Variable	Measured value	Unit of measurement
Hemoglobin	12.6	g/dL
White blood cell	19200 (with 83% Neutrophils)	per µL
Platelet	189000	per µL
Blood Sugar	132	mg/dL
Blood PH	7.5	
Blood HCO_3	18.7	mEq/L
Blood PCO_2	24	mm Hg

An upright chest X-ray performed for detecting sub-diaphragmatic free air, which did not show any abnormal finding. An abdominal ultrasound revealed a medium amount of free liquid in the pelvic cavity. Doppler study of the abdominal vessels revealed an obstruction in portal vein due to thrombosis. Blood flow seemed normal in the supra-hepatic vein and inferior vena cava.

Blood samples were taken to evaluate coagulative state and underlying causes, which showed normal results.

Since her hematemesis continued, an upper GI endoscopy performed and revealed early varices in the lower third of esophagus with hemorrhagic gastritis.

Free liquid of the abdomen was tapped for further evaluation, which was bloody in general appearance. With respect to severe and continuous pain, she underwent emergency laparotomy. Thrombosis in the superior mesenteric vein caused severe ischemia and intestinal gangrene. A length of 100 cm from jejunum was resected (Figure 1).

She discharged within 5 days with good general condition with no complication in two months' follow up.

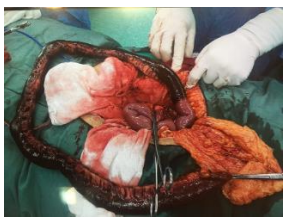

Figure 1. Ischemia and gangrene of jejunum due to venous thrombosis

Discussion

Mesenteric vein thrombosis has the least prevalence among common etiologies of mesenteric ischemia, including 10% of mesenteric ischemia patients and 18% of acute mesenteric ischemia cases. With an improvement in diagnostic methods, only 10% of mesenteric thrombosis cases are considered idiopathic nowadays (1,2,3).

Predisposing factors for mesenteric vein thrombosis include myeloproliferative disorders, neoplasia, nocturnal hemoglobinuria attacks, hereditary thrombophilia, using oral contraceptive pills, recent surgery, and local intra-abdominal infections (4).

The risk of mortality depends on the onset of the disease (acute or chronic) and the extent of vessel involvement. In patients with acute thrombosis in the mesenteric vein or portal vein, the mortality risk is about 30% in 30 days (3).

Long-time survival is estimated 30%-40% in patients with acute mesenteric vein thrombosis, in comparison to 80% in chronic cases.

Since the symptoms are not specific for the disease and may be confused with other abdominal pathologies, including pancreatitis, acute diverticulitis, small bowel obstruction, and acute cholecystitis, patients' history should be focused on an accurate diagnosis.

The pain is usually severe and inappropriate with findings of physical examination in patients with acute mesenteric ischemia. Analgesics and narcotics are not useful for improving the symptoms. Other accompanying symptoms include vomiting and diarrhea. Physical examination findings are limited and nonspecific in the early stages of the disease (5,6).

Treatment includes surgical intervention and medical therapy with warfarin, heparin, and thrombolytic agents (7).

Women who are using oral contraceptive pills (OCPs) for more than 1 year, especially those who have a history of deep vein thrombosis, are at risk for developing thrombosis in mesenteric veins (8).

The mentioned patient had no history of thrombosis before and was taking OCP for only 5 months, so occurring thrombosis is not expected.

Regarding the non-specific symptoms, only clinical suspicious will help the physician in cases who have not a specific predisposing factor for thrombosis; and finally, the key to correct diagnosis is thinking of the disease.

References

1. Bradbury AW, Brittenden J, McBride K, Ruckley CV. Mesenteric ischaemia: a multidisciplinary approach. Br J

Surg 1995; 82:1446-59.
2. Abdu RA, Zakhour BJ, Dallis DJ. Mesenteric venous thrombosis: 1911 to 1984. Surgery 1987;101:383-8.
3. Rhee RY, Gloviczki P, Mendonca CT, et al. Mesenteric venous thrombosis: still a lethal disease in the 1990s. J Vasc Surg 1994;20:688-97.
4. Amitrano L, Brancaccio V, Guardascione MA, Margaglione M, Iannaccone L, Dandrea G et al. High prevalence of thrombophilic genotypes in patients with acute mesenteric vein thrombosis. Am J Gastroenterol 2001;96:146-9.
5. Bingol H, Zeybek N, Cingöz F, Yilmaz AT, Tatar H, Sen D. Surgical therapy for acute superior mesenteric artery embolism. Am J Surg. 2004;188:68-70.
6. Schoots IG, Levi MM, Reekers JA, Lameris JS, van Gulik TM. Thrombolytic therapy for acute superior mesenteric artery occlusion. J Vasc Interv Radiol 2005;16:317-29.
7. Kozuch PL, Brandt LJ. Review article: diagnosis and management of mesenteric ischaemia with an emphasis on pharmacotherapy. Aliment Pharmacol Ther 2005;21:201-15.
8. Stewart H, Flannery MT, Humphrey DA. Superior Mesenteric Vein Thrombosis Secondary to Oral Contraceptive Use. Case Rep Vasc Med 2012.