

Portomesenteric venous gas does not always mean intestinal necrosis: report of a case

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Abstract

Portomesenteric venous gas is a rare condition most commonly caused by mesenteric ischaemia. Mesenteric ischemia, can be life-threatening and requires immediate surgical intervention with a poor prognosis. During the laparotomy, intestinal necrosis and perforation are most common findings although some patients reveal no surgical pathology.

In this report we present a case of portomesenteric venous gas which is secondary to acute intramural intestinal haematoma.

Keywords: Portomesenteric venous gas, Mesenteric ischemia.

Introduction

Portomesenteric venous gas is a rare condition and most commonly caused by mesenteric ischaemia but may have a variety of other causes.^{1,2} In this report we present a case of portomesenteric venous gas which is secondary to acute intramural intestinal haematoma.

Case Presentation

A 74-year-old woman presented to our emergency department with abdominal pain, nausea, vomiting and constipation for three days. She was hypotensive febrile and had tachycardia. On physical examination, was generalized abdominal tenderness but physical examination of the abdomen defense or rebound tenderness was non-contributory as she was confused. The bowel sounds were absent. When nasogastric tube was placed, 1000 cc intestinal liquid was retrieved. She had a history of mitral valve replacement surgery in 1992 and was on anticoagulation therapy (Coumadin, Zentiva, Turkey) since then. ECG showed atrial fibrillation.

The patient's abnormal laboratory values were:

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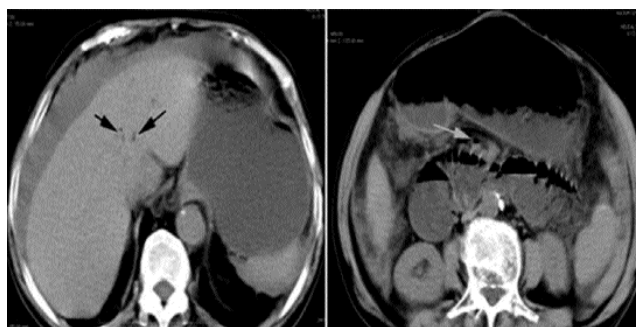


Figure-1: Computed tomography of abdomen showed gas in the main portal vein (black arrows) and mesentery (white arrow).



Figure-2: Computed tomography of abdomen showed intramural haematoma (white arrows) of the proximal jejunum.

haemoglobin 11,8 g/dl (normal: 12-15 g/dl) white blood cell (WBC) count 44,320 uL (normal: 3900-11700 uL), sodium 132 mEq/l (normal: 135-145 mEq/l), blood urea nitrogen: 36,9 mg/dl (normal: 5-24mg/dl), creatinine: 1,69 mg/dl (normal: 0,40-1,40 mg/dl). INR value was very high that could not be measured.

Plain abdominal and chest x-ray were normal. Abdominal computed tomography (CT) which was taken without contrast due to increased creatinine level, showed portomesenteric venous gas (Figure-1) and intramural haematoma of the proximal jejunum (Figure-2)

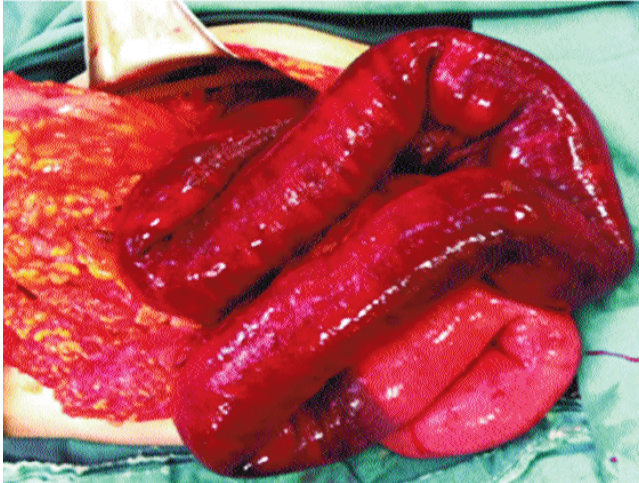


Figure-3: The photograph showed intramural heamatoma of jejunum.

She was diagnosed with acute abdomen, most probably with intestinal ischaemia with all findings together such as: physical examination, hypotension, tachycardia, fever, elevated WBC and portomesenteric venous gas.

After resuscitating with fresh frozen plasma, surgery was performed. Exploratory laparotomy showed an intramural haematoma of the proximal jejunum starting from Treitz Ligament (Figure-3). The effected jejunum wall was viable but had no spontaneous peristalsis. There was no sign of intestinal wall necrosis or perforation. Almost 2 liters of defibrinated blood was drained but no active bleeding source was found. The surgery was terminated with a misdiagnoses of intestinal ischaemia.

Discussion

Patients with portomesenteric venous gas always have comorbid conditions in whom accurate diagnosis is very challenging.¹

Portomesenteric venous gas is most commonly caused by mesenteric ischaemia but some other conditions such as dilatation of the intestine, diverticulitis, pyloflebitis, pneumatosis intestinalis and a number of unknown reasons can also cause this radiological sign.²

If portomesenteric venous gas is a sign of mesenteric ischaemia, this condition is life-threatening and it requires immediate surgical intervention with a poor prognosis with a mortality rate between 75 % to 90%.^{3,4} Intestinal necrosis and perforation are most common findings although some patients reveal no surgical pathology.¹

At laparotomy, patients should be evaluated for intestinal necrosis and perforation. If portomesenteric venous gas is caused by intramural haematoma secondary to anticoagulant therapy as in our patient and if there is no intestinal ischaemia, perforation or necrosis surgery should be terminated without any further intervention.

Conclusion

A diagnostic laparoscopy was performed in the presented case and the diagnosis of Portomesenteric venous gas secondary to acute intramural intestinal haematoma.

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