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Mesenteric Vein Thrombosis Complicating Pneumatosis Intestinalis, a Case Report

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Introduction: Pneumatosis intestinalis is usually considered as a benign condition. Here we report the association of this condition with mesenteric vein thrombosis leading to bowel gangrene which to our best knowledge is the first reported association.
Case Presentation: Our patient was a 71 year old Iranian male, smoker, who was followed with diagnosis of pneumatosis intestinalis for 11 months and then developed abdominal pain which was confirmed to be due to mesenteric vein thrombosis complicated by bowel gangrene.
Discussion: Although pneumatosis intestinalis is not usually a threatening condition in adults, new onset of abdomen in these patients should prompt for complications such as mesenteric vein thrombosis.

Keywords: Mesenteric vein thrombosis; Pneumatosis intestinalis; Case report

1. Introduction

Pneumatosis intestinalis (PI) is a rare condition characterized with presence of gas in the wall of small or large bowel or both (1, 2). Although it is almost always a grave sign in neonates with resultant high mortality, in adult patients it is usually considered a benign self limited condition. Indeed most adults with PI are usually asymptomatic. The pathogenesis of this condition is not clear but there are several associated conditions. (3) The list is large and includes infections of bowel, mucosal diseases such as inflammatory bowel diseases, intra abdominal catastrophes like bowel gangrene from any cause, as a complication of endoscopic procedures and pulmonary diseases including chronic obstructive pulmonary disease (COPD) (1, 2, 4, 5). Here we present a case of apparently benign PI for a long time which was then complicated with superior mesenteric vein thrombosis (SMVT).

2. Case Presentation

Our patient was a 71 year old Iranian male farmer, water pipe smoker and occasional opium inhaler who presented with abdominal fullness and distension for many years. Work ups revealed free air in the abdominal cavity on abdominal X ray and then abdominal CT scan with no other finding. Patient underwent a diagnostic laprascopy which revealed multiple bulla in the wall of intestine with no evidence of peritonitis or perforation. He was diagnosed as pneumatosis cystoides intestinalis and was advised to discontinue smoking and was given dimethicone, domperidone, ranitidine orally and ipratropium bromide spray. He was followed in out patient department for the next 11 months. In all of these visits abdominal distention was present but there were no sign of peritoneal irritation. Bowel sounds were normal. Colonoscopy, upper endoscopy and color Doppler sonography of abdominal vessels were also normal. Another abdominal and pelvic CT scan were also normal except of multiple bulla in the wall of large bowel. He decreased his use of water pipe and opium. About a year after the first presentation to our center, he developed progressive abdominal pain for six hours. On admission in emergency room he had diffuse abdominal tenderness accompanied with decreased bowel sounds. Another CT scan was done which revealed SMVT. Patient underwent lapratomy which revealed twenty cm of gangrenous bowel, that was resected. Blood clots in superior mesenteric vein were also evacuated. He was given unfractionated heparin in post operative period followed by warfarin. He was well two years after the second operation. The only complaints were occasional abdominal distension responsive to demand therapy with dimethicone, domperidone and famotidine.

Implication for health policy/practice/research/medical education:
Apparantlu benign conditions like pneumatosis intestinalis might be complicated with more severe disease like mesentric vein thrombosis.

3. Discussion

PI in adults is usually a disease of elderly presenting after sixth decade of life .In acute form it may be a manifestation of bowel gangrene and is considered a medical emergency. But in the chronic form which is the most common type in adults, is usually asymptomatic or presents with non specific symptoms with a benign course. As mentioned above PI may complicate bowel gangrene after superior mesenteric vein thrombosis (SMVT) (6) but the reverse association in patients with PI has not been reported to our best knowledge so far. In our case ,as there was a long lag period between the initial manifestation and the second surgery, it is apparent that the SMVT occurred after PI. This association might be related to raised intra abdominal pressure leading to decreased venous flow and resultant thrombosis.

The concept of benign nature of chronic type of PI needs to be individualized. This case presentation should make physicians both in primary and specialty care aware of possibility of grave complications of PI. This should be considered when clinical course of these patients is changed and they present with new and progressive signs.

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