

Pylephlebitis Secondary to Acute Gastroenteritis

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Received: November 25, 2017; **Published:** December 27, 2017

Abstract

Pylephlebitis is a septic thrombophlebitis of the portal vein and its intrahepatic branches. It's a rare but potential fatal complication of an intraabdominal infection.

Case Report: A 87 yr-old male patient that comes to the emergency service with abdominal pain The patient presented enteral symptoms the previous week prior to admission. An abdominal CAT scan found air in mesenteric and portal circulation. Despite being with antibiotics and hydration the patient subsequently presented cardiorespiratory arrest and died on the same day of admission.

Conclusions: Pylephlebitis can occur after a gastrointestinal infection, is rare, but has a high mortality rate. The mainstay of treatment is aggressive antibiotic therapy.

Keywords: *Pylephlebitis; Gastroenteritis*

Introduction

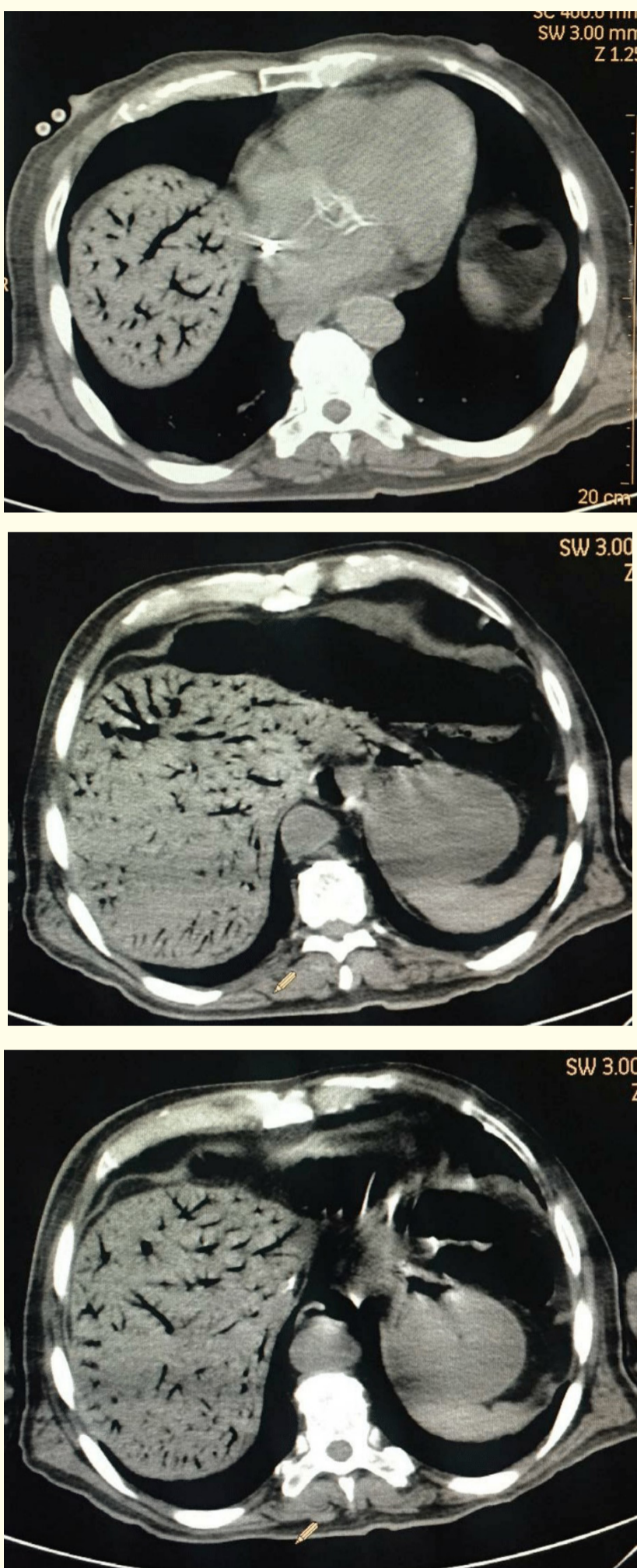
Pylephlebitis is a septic thrombophlebitis of the portal vein and its intrahepatic branches. It's a rare but potential fatal complication of an intraabdominal infection [1-3]. We present a case of a patient with acute gastroenteritis that develop pylephlebitis.

Case Report

A 87 yr-old male patient that comes to the emergency service with abdominal pain about 2 hours of onset. The patient has history of Diabetes Mellitus since 12 years ago, arterial hypertension and chronic renal failure on treatment with hemodialysis. Amputation of 5th finger of right foot 10 years ago. The patient presented enteral symptoms the previous week prior to admission, characterized by diarrheal defecations in number of 8 a day, with improvement of the symptoms; nevertheless it begins with abdominal pain reason of its current valuation.

At examination he was conscious, oriented, with pain fascies, blood pressure 110/80 mmHg, heart rate 98 x', afebrile with temperature of 35.7 C, Sat O₂ 90%, pale, and dehydrated. Abdomen with important distention, no peristalsis present when auscultating, at palpation generalized pain but no peritoneum irritation signs.

Laboratory test: Full blood count with hemoglobin 10.2 g/l, Platelets 184,000 cells/mm³, Leukocytes 11,000 cells/mm³, Gluc 247g/l, Urea 110 mmol/l, Cr 8.1 mmol/l, Amylase 31 U/L, Lipase 38 U/L. Abdominal CAT scan found air in mesenteric and portal circulation (Figures 1-3).



Figures 1-3: CT scan showing air in portal circulation.

We decide start empiric treatment with Vancomycin, Ertapenem and thromboprophylaxis with Enoxaparin 60 mg. In the course of the day patient starts with progressive hemodynamic deterioration with hypotension of 40/20 mm Hg, and tachycardia 132X' despite being with noradrenaline at high doses. The patient subsequently presented cardiorespiratory arrest and died on the same day of admission.

Discussion

Pylephlebitis was first described by Waller in 1846 as an investigation about the source of an hepatic abscess in an autopsy.

It can result from an abdominal infection in the regions drained by the portal system. The thrombosed veins can send septic emboli through the liver giving origin to hepatic abscesses. Generally can start as thrombophlebitis of the small mesenteric veins that spread the septic emboli to the portal system, and thrombosis of the mesenteric vein at the same time can lead to mesenteric ischemia, and bowel perforation [4].

Despite the development of modern diagnostic imaging and treatment, mortality remains high. It has a mortality rate as high as 25%, with an estimated incidence of 2.7 per 100,000 person-years [5,6].

Some of the most common causes include diverticulitis [2,7], appendicitis [8], inflammatory bowel disease, pancreatitis, Chron's disease [9] and other abdominal infections, pylephlebitis has been reported as a complication of hemorrhoidal banding [10], flexible sigmoidoscopy [3], ingestion of foreign bodies [11], and CT guided liver biopsy.

Nevertheless the primary source of infection could not be identified in 70% of the cases [6]. Organisms such as *Escherichia coli* or *Klebsiella pneumoniae*, or anaerobic *Bacteroides* species are usually cultured in blood, in 80% of patients [3,7,12].

Risk factors include a hereditary clotting disorder, steroid therapy, smoking, immobilization and prior abdominal surgery [9], malignancies and portal hypertension [12]. An hypercoagulable condition, malignancy, or acquired immune deficiency syndrome is not an uncommon association [13]. Risk factors for septic complications include HIV infection, immunosuppression, phenothiazines, intravenous drug abuse, diabetes and rheumatic diseases [10]. This patient had diabetes mellitus as risk factors, and immunosuppression related to chronic renal failure undergoing hemodialysis, what could conditioned the course of pylephlebitis.

Its diagnosis is based on clinical evaluation, (although the clinical presentation may be non-specific) [4,6] and imaging tests [3], abdominal ultrasound can show a thrombus in the portal vein, or computed tomography scan which can also detect other sources of infection [6].

Some of the common symptoms include fatigue, malaise, chills, nausea, vomiting, diarrhea, and anorexia/weight loss and may also have hepatomegaly and jaundice [6].

Treatment includes appropriate antibiotic therapy generally to cover Gram-negative bacilli, anaerobes, and resection or drainage of principal septic source [3]. Treatment can last up to 4 - 6 weeks [10,13]. Efficacy of anticoagulants still controversial [14]. Some studies recommend early anticoagulation [8]. The role of thrombolytics in the treatment of pylephlebitis is also not well-known [6].

Conclusions

Pylephlebitis can occur after a gastrointestinal infection, is rare, but has a high mortality rate. The mainstay of treatment is aggressive antibiotic therapy.

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Volume 4 Issue 5 December 2017

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