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Superior Mesenteric Vein Thrombosis Complicating a Pancreatitis

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Case Report

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Abstract: Pylephlebitis defined as suppurative thrombosis of the portal vein often associated with bacteremia, is a rare and serious complication of intra-abdominal infections. Acute appendicitis and pancreatitis are the most frequently identified surgical causes of portal vein thrombosis. An abdominal CT scan allows for early diagnosis and identification of the responsible septic source. Treatment should include a combination of antibiotics and anticoagulants. Surgical treatment of the responsible infectious site should be carried out without delay. The veins adjacent to the infection are the first to be involved with later spread to the portal vein and possibly the mesenteric veins can lead to bowel necrosis and increased morbidity and mortality.
Keywords: Abdominal pain; pancreatitis; pylephlebitis.

INTRODUCTION

Septic pylephlebitis is a purulent thrombosis of the portal vein, affecting either one of its intrahepatic branches , splenic vein, superior mesenteric vein or inferior mesenteric vein. The most frequent etiologies are acute ascending disorders of an intra-abdominal organ such as pancreaticnecrosis, appendicitis, acute cholecystitis, diverticulitis. Imaging techniques such as Doppler echography, computed tomography (CT) can easily diagnose pyelphlebitis by objectifying the thrombus in the portal-mesenteric system in a patient with an acute abdomen [3].

OBSERVATIONS

A 63-year-old patient without medical antecedents was admitted to the emergency for a epigastric pain, nausea, bilious vomiting, fever at 39°C accompanied by diarrhea.

Clinical examination found a patient with normal vitals but with fever at 39.5°C and sensitivity of the right hypochondrium and epigastric on palpation. Blood tests revealed an inflammatory syndrome with C-reactiveprotein (CRP) at 344 mg / l and hyperleukocytosis at 11800 /mm with 89% neutrophils, lipasemia at 1200U/L. Liver function tests showed raised AST at 120 IU /l, raised ALT at 110 IU / L associated with moderate hepatic cholestas is with ALP at 183UI / l, gammaGT at 440 IU / L and total bilirubin at 21 mg / L. Renal function was conserved. Abdominal CT with injection of contrast agent shows an incomplete thrombosis of the superior mesenteric vein with a vesicular lithiasis and pancreatitis [figure]. Blood cultures were negative. The diagnosis of pylephlebitis was retained and treatment was started immediately with the combination of an empiric antibiotic therapy based on ceftriaxone, metronidazole, gentamycin and curative heparin therapy relayed five days later by warfarin.

Evolution was favorable with apyrexia, regression of clinical signs, and on radiological controls showed repeatability of superior mesenteric vein

DISCUSSION

The first case of pylephlebitis was described in 1841 by Lambron. Subsequently, Walter in 1846 and Dieulafoy in 1898 described several cases of pylephlebitis associated with hepatic abscesses in patients [4]. The actual prevalence of pylephlebitis remains difficult to establish, In the Thrombocir study Portal thrombosis has a not inconsiderable incidence and does not appear either as an independent factor of aggravation of liver disease or as a consequence Of the aggravation of the latter[5]. In most cases, pylephlebitis is the consequence of the gradual extension of suppurative thrombophlebitis secondary to an intra-abdominal infectious site such as a pancreatitis, a diverticulitis or a biliary infection. Pylephlebitis is rarely the consequence of direct microbial inoculation of a venous trunk of the portomesenteric system [6, 7]. In some cases, the primary suppuration site is not found. This could be micro-abscesses contiguous to the digestive tract which are very difficult to spot [7].

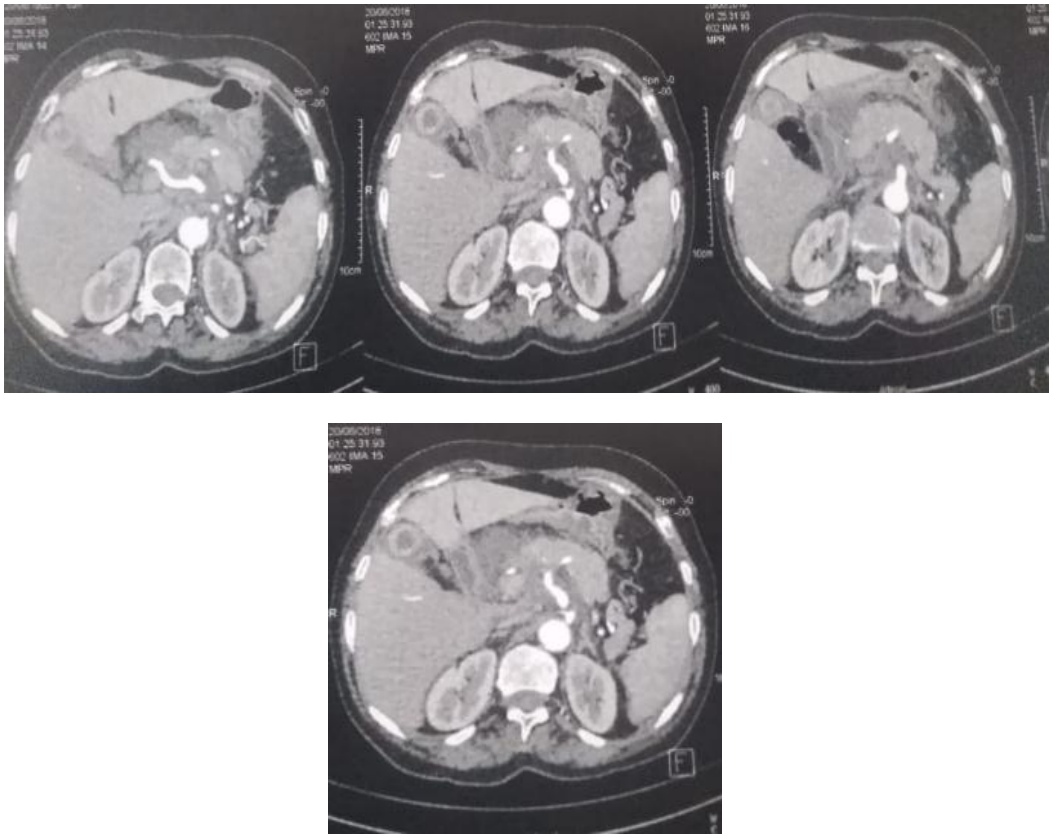

Fig-1: abdominal CT with injection of contract agent shows an incomplete thrombosis of superior mesenteric vein, pancreatitis and vesicular lithiasis

Clinically, the most common presentation of pylephlebitis is fever and abdominal pain [2]. These two symptoms were present in our patient. Nausea and diarrhea as well as jaundice occur in 20% of cases. In almost 20% cases of pylephlebitis is revealed by severe sepsis [8]. Blood tests generally show moderate to severe inflammatory syndrome [9]. Blood cultures must be obtained in any patient with acute vein thrombosis associated with fever, hyperleukocytosis and hepatic enzyme elevation [10]. Blood cultures are positive in 50% to 88% of cases. . Escherichia coli and streptococcus are the most common germs found. The thrombogenic role of some anaerobic germs has been described in the literature such as Bacteroides Fragilis, a strictly anaerobic Gram-negative bacillus (GNB); in animals, it is involved in the production of hemagglutinin and the induction of platelet aggregation [4, 11, 12].

Imaging plays an essential role in the diagnosis of pylephlebitis and its etiology. Ultrasound may show superior mesenteric vein thrombosis and signs of the primary abdominal inflammatory process, but it accuracy is limited by the gaseous screen and the quality of the ultrasound examination, which vary according to the experience of the examiner [13]. CT scan is useful for diagnosis because it easily represents thrombosis as a lack in contrast agent uptake. Rarely does it show air bubbles in the portal system. Pylephlebitis should be treated rapidly and aggressively to avoid complications such as visceral ischemia, hepatic abscesses, and chronic portal hypertension [14]. Broad spectrum antibiotics and anticoagulants are the therapeutic pillars in the management of this disease. Anticoagulation is traditionally reserved for cases of pylephlebitis complicated by the thrombosis of the mesenteric vein and the progression of the thrombus [8]. The duration of anticoagulation is not clearly defined, and thus it must be continued for at least three months or even for a lifetime in case of associated thrombophilia [15]. Kanellopoulou *et al*. reported that patients who received both biantibiotics and anticoagulants had a better outcome than those who received only antibiotics [16].

Surgical treatment is rarely necessary except in cases of hepatic abscess with no clinical and biological improvements under medical treatment or in forms complicated with peritonitis. Antibiotherapy must be adapted according to the antibiogram and continued for four to six weeks according to the evolution [8]. Left untreated, thrombotic disease could lead to cavernous transformation and portal hypertension, the Biliary symptoms due to portal cholangiopathy sometimes reveal the portal cavernoma[17].

Rapid diagnosis of pylephlebitisis essential because morbidity and mortality rates decrease dramatically with appropriate treatment [18]. However, nonspecific clinical signs maybe present resulting in delayed diagnosis and management. Physicians should consider pylephlebitis as a differential diagnosis in patients with fever, signs of surgical abdomen (such as pancreatitis and appendicitis), and disruption of liver function.

CONCLUSION

Pylephlebitis is a severe pathology that can occur in many circumstances. Surgical causes include abdominal trauma, post-operative infection, and intraperitoneal infection. Abdominal CT scan can diagnose this complication in early stage. Rapid diagnosis and immediate treatment, a broad spectrum antibiotherapy combined with an effective anticoagulant therapy reduces mortality rate from 20-7%.

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