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Case Report

Mesenteric angina successfully treated by percutaneous angioplasty

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ABSTRACT

A female patient of 47 years was sent to our radiology department for abdominal CT. She had severe epigastric pain very marked to left hypochondrium in postprandial period for a month. The pain was increasingly progressive with critical attacks at night. That forced her into fear and food restriction with an estimated weight loss of 4kg. Drug treatments did not improve symptoms. Abdominal CT highlighted thrombosis of superior mesenteric artery of 90%. Other arterial trunks and intestines were normal. Percutaneous angiography confirmed mesenteric thrombosis. A percutaneous transluminal angioplasty (PTA) was performed with success. Antiplatelets were prescribed. A good clinical evolution was observed within one year.

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Introduction

Abdominal angina or chronic mesenteric ischemia is a syndrome related to a significant decrease in arterial flow from the digestive loops. It is a rare, often unrecognized but serious entity with a potential risk of acute intestinal ischemia [1]. We report a case about a patient who presented severe chronic intermittent post-meal abdominal pain. Drug treatment was unsuccessful. Abdominal CT scan showed a short tight thrombosis of superior mesenteric artery. Percutaneous balloon angioplasty recanalization was performed successfully, this improved symptoms and allowed to avoid surgery. During one

year, Clinical evolution was satisfactory with total remission of the pain.

Observation

A female patient of 47 years was sent to our radiology department for abdominal CT. She had severe epigastric pain very marked to left hypochondrium in post-prandial period for a month. The pain was increasingly progressive with critical attacks at night such as a sting, that forced her into fear and food restriction with an estimated weight loss of 4 kg. She

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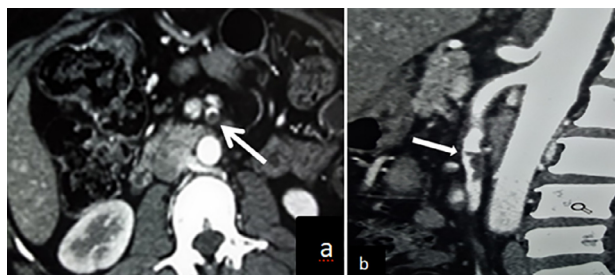


Fig. 1 – Axial (A) and sagittal (B) CT sections showing significant stenosis of the superior mesenteric artery (arrows)

had no heart disease nor cardiovascular risk. She was reportedly treated for gastritis diagnosed by eso-gastro-duodenal fibroscopy unsuccessfully. She had no fever nor infectious syndrome. Hypercholesterolemia was observed biologically.

Abdominal CT revealed a parietal thrombus of superior mesenteric artery of 90% (Fig. 1A, B). Aorta and other digestive arteries were normal. Arteriography through right common femoral artery puncture under local anesthesia showed thrombosis. Heparin (4000 UI) was administrated intravenously. The catheter was advanced close to thrombosis which was cannulated with a Terumo 0.035-inch guidewire. We inflated the balloon 6mm x 4 cm (Cordis Powerflex^R Pro) at three times. Arteriography was checked again and revealed a widened superior mesenteric artery (Fig. 2A, B, C). After procedure, we treat the patient with aspirin (100 mg/day), clopidogrel (75 mg/day). No post-operative complication occurred. One week later, clinical examination noted a significant decrease in pain and stable vital signs. She was recommended for outpatient vascular pathology consultations. A good clinical evolution was observed within one year.

Discussion

Mesenteric angina is the clinical expression of chronic ischemia of small intestine, aggravated in postprandial period,

due to increased intestinal blood flow requirements [1]. Typically, the clinical form of mesenteric angina combines: early postprandial abdominal pain, difficult to characterize, diffuse, lasting one to three hours [2,3]. Sometimes known as "mesenteric claudication". These pains may increase in duration and intensity over the months. Pain can also be triggered by various circumstances that reduced splanchnic flow (dehydration, physical effort, hypotension). Because diet regularly triggers pain, the patient has dietary inhibition or completely restricts his or her diet. The result is a progressive weight loss that can lead to a state of severe undernutrition [2]. That was the case of our patient who had severe early postprandial pain with a stinging or grinding type of increasing progression. She dramatically reduced her diet and experienced significant weight loss.

When the pains become intrusive, nocturnal, sleepless, they can announce a picture of mesenteric infarction. This is called a mesenteric threat syndrome.

Obliteration can progressively affect two or three digestive arterial trunks, and occurs in patients with proven vascular risk factors [2]. Our patient did not have any risk factors or cardiovascular disease. Biology has objectified hypercholesterolemia.

The CT angiography makes the diagnosis by showing the arterial lesions of the various digestive trunks. It assesses the degree of thrombo-stenosis, the importance of collateral circulation and allows other causes of vascular obstruction to be excluded [3,4,5]. In addition it allows a good analysis of digestive loops. In our case stenosis was significant (90%). There was no ischemia of the digestive loops. CT angiography is the technique of choice for follow-up of treated patients [5].

Treatment aims to relieve symptoms, improve nutritional status and prevent mesenteric ischemia [2,6,7]. Endovascular recanalization appears to be the first option due to its minimally invasive nature and its good results in terms of perioperative morbidity and mortality compared to surgery [8-10]. The latter being more reserved for multiple and complex lesions. Short stenosis of a single digestive tract was a good indication for endovascular recanalization. Our patient was successfully treated with balloon angioplasty. The clinical course was satisfactory over a one-year follow-up with complete improvement in symptoms and weight gain.

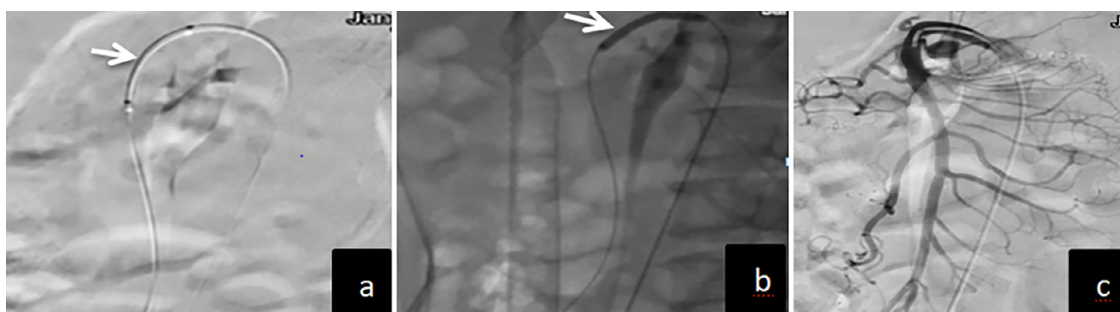


Fig. 2 – Angiography: A, B; placement of the angioplasty balloon inflated at high pressure (arrows) C, Satisfactory recanalization of the superior mesenteric artery (arrows)

Conclusion

Chronic mesenteric ischemia is severe and can occur in a patient without obvious cardiovascular risk. Percutaneous endovascular recanalization appears to be the first therapeutic option due to its minimally invasive nature and its good results in terms of perioperative morbidity and mortality compared to surgery.

Declaration of Competing Interest

The authors declare no conflicts of interest.

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