RELATO DE CASO

UNCOMMON CAUSE OF ACUTE MESENTERIC ISCHEMIA: CASE REPORT

CAUSA INCOMUM DE ISQUEMIA MESENTÉRICA AGUDA: RELATO DE CASO

Luis Fernando Barbosa Silva[1], Viviane de Deus Silva[1], Larissa Mendonça Ferreira[1], João Guilherme Silva de Oliveira[1], Silvio Alves da Silva[2].

ABSTRACT

Acute mesenteric ischemia is not a common affection, it happens in 1 to 1,000 people in the United States. Acute mesenteric ischemia should always be one of the differential diagnoses for abdominal pain as it is difficult to diagnose and has very high mortality rates. Among its causes, the most uncommon remains the obstruction caused by displacement of atherosclerotic plaques. Therefore, the description of a case of acute mesenteric ischemia caused by detachment of a plaque in the thoracic aorta is contributing to academic field. The present case was treated by immediate exploratory laparotomy with resection of the distended segments and implantation of an endoprosthesis via femoral artery.

Keywords: Bile duct cancer. Epidemiology. Cholelithiasis. Anatomicopathological. Cholecystectomy.

RESUMO

A isquemia mesentérica aguda não é comum, atinge 1 a cada 1000 habitantes nos Estados Unidos. Por ser de difícil diagnóstico e de elevada mortalidade deve sempre ser um dos diagnósticos diferenciais para dor abdominal. Dentre suas causas, mais incomum ainda é a obstrução causada por deslocamento de placa aterosclerótica. Portanto, torna-se útil demonstrar um caso de isquemia mesentérica aguda causada por descolamento de placa da aorta torácica, tratado por laparotomia exploradora imediata com ressecção das alças em sofrimento e implantação de endoprótese torácica reta via femoral.

Palavras-chave: Câncer de ducto biliar. Epidemiologia. Colelitíase. Anatomopatológico. Colecistectomia.

ACESSO LIVRE

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INTRODUCTION

Time is the mandatory factor in successful treatment of acute mesenteric ischemia. With early diagnosis and immediate intervention, the prognosis is satisfactory. However, over the years, mortality rates are still unacceptable despite technological and medical advances. Mortality rates still remain around 60%[1,2,3].

There are several causes of acute mesenteric ischemia. Among them are: arterial occlusion caused by arterial embolism or arterial thrombosis, mesenteric venous thrombosis and non-occlusive mesenteric ischemia. Arterial occlusion usually originates in the cardiac cavities and originates from a mural thrombus associated with myocardial infarction with or without atrial fibrillation[4]. Arterial occusion rarely originates from a thrombosed proximal aneurysm or from the release of a plaque of atheroma. The present case describes a case of acute mesenteric ischemia caused by atherosclerotic plaque displacement from the thoracic aorta, an uncommon case in medical practice which, nonetheless, should always be remembered when performing differential diagnoses.

CASE REPORT

SM, 59 years old, female, married, civil servant, Catholic, brown, native to Porto Nacional-TO and arriving from Palmas-TO. The patient was admitted to the Regional Hospital of Porto Nacional after a long drive with severe burning pain in the abdomen, diffusely, quantified as 10 (pain scale 0-10), without irradiation, without improving or worsening factors, and which made it impossible to walk.

Physical examination: Poor general condition, lucid and oriented in time and space, pale +/4+, hydrated, tachypneic, and tachycardic;
Pulmonary apparatus with good expandability, vesicular murmur present and absence of adventitious noises; tachypnea;

Cardiovascular apparatus with regular rhythm, normophonetic sounds without murmurs or extrasystoles, preserved capillary filling time. Strong pulse, rhythmic and accelerated.

Abdominal apparatus with flaccid abdomen with no signs of abdominal defense or peritonitis, increased air-fluid noises; Abrupt decompression negative;

The surgeon on call promptly requested an abdomen radiograph. The image showed dilatation of small intestine loops without signs of pneumoperitoneum or intestinal pneumatosis. The city did not have an angio-CT available, so the patient was referred to Palmas-TO (50 km away) for an examination with more complexity. CT angiography was done and showed signs of a subocclusion of the ileojejunal branch (Figure 01). The diagnosis of acute mesenteric ischemia was made in association with the symptomatology (intense early onset pain) that did not correspond to the physical examination (no pain at maneuvers) and with the CT scan. The patient returned to Porto National-TO and was immediately referred to the surgical center to undergo exploratory laparotomy. A small amount of free liquid was found in the peritoneal cavity, as well as an ischemic jejunum with significant edema. There were no signs of perforation of intestinal loops. Thrombectomy was performed. After its removal, yellowish and lipophilic content was visualized and described as having appearance similar to an atheroma plaque. The feasibility of the most affected segment was tested. However, there were no signs of perfusion or motility and thus an enterectomy of 1.2m of the jejunal portion was required with reconstruction by end-to-end anastomosis. Finally, a thorough inspection of the cavity was carried out, washing it with heated physiological saline and closing it after by planes.

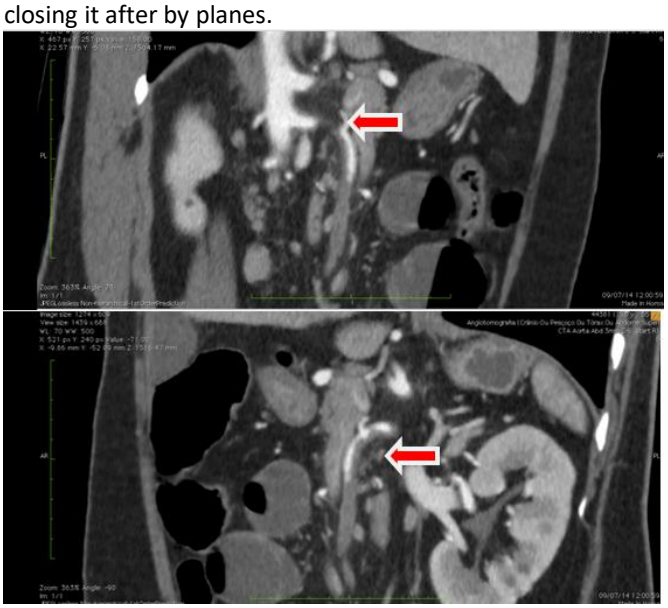

Figure 1: Angiotomography showing ostial sub-occlusion of the superior mesenteric artery affecting the jejunoileal branch.

After surgery, the patient was referred to the ICU for multiparametric evaluation. She arrived at the ICU in endotracheal intubation, sedation (RASS -5), FiO2 30%; *pupils* equal, round, and *reactive* to light and accommodation; not in use of vasoactive drugs; heart rate of 112bpm; with good diuresis in the first 12 hours (1500ml) and fasting.

The patient stayed in the unit for a few days. In the first day of the postoperative period, air-fluid noises remained absent. In the second day, discreet noises could be heard. On the fifth day, a liquid test diet was begun, with good acceptance. After 6 days, the patient was administered a liquid diet. The patient remained in the ICU for another 14 days until she was discharged to the ward. In the ward, she remained asymptomatic, with a mild diet, air-fluid noises present in all abdomen and bowel movements were also present. She stayed for another 3 days in the ward until she was discharged from hospital.

90 days after the surgery, the patient seeked the Vascular Surgery Service to investigate the origin of the thrombus with atheromatous embolus characteristics. A new angio-CT was performed and a complex atherosclerotic plaque was seen in the descending aorta (figure 02).

Figure 2: Angio-CT showing a complex ulcerated plaque in the descending thoracic aorta

The risk of new emboli was high. A new surgical approach of the plaque was chosen by the team along with the patient

herself. By means of endovascular technology, a stent was placed in order to permanently stabilize the plaque.

The procedure was performed with:

1. Right inguinal incision and dissection with posterior puncture of the right femoral artery, and installation of the Introductory Kit 6F.
2. Puncture of left femoral artery with installation of the Introductory Kit 6F.
3. Implantation of 28x28x100 endoprosthesis in the thoracic aorta over the ulcer site.
4. Withdrawal of device and closing.

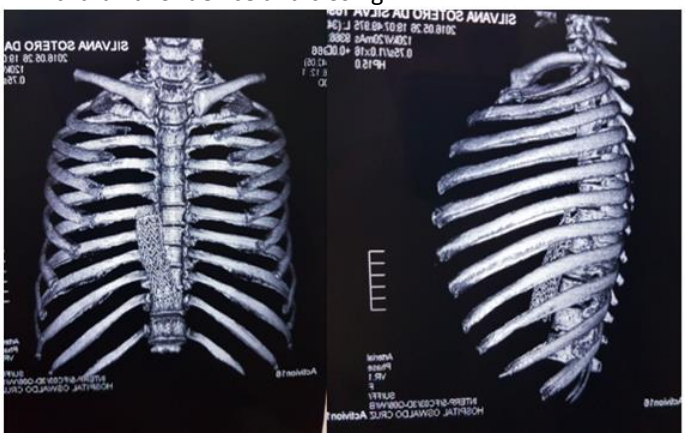

Fig 3: Angio-CT showing the implantation of the endoprosthesis in ulcerated plaque of the descending thoracic aorta.

After the procedure, the patient progressed well without intestinal symptoms. No food or physical restrictions.

DISCUSSION

Intestinal ischemia may present itself as: ischemia of the colon (60%), acute mesenteric ischemia (30%), focal segmental ischemia (5%) and chronic mesenteric ischemia (5%).[5]

The diagnosis of acute mesenteric ischemia remains a clinical and radiological challenge. This morbidity has a high mortality rate, around 70 to 90%, despite surgical or endovascular [6]. The reversal of this high mortality rate is only possible with early diagnosis and immediate treatment, features notorious in this report. Within a few hours after the identification of the ischemia situation, exploratory laparotomy was performed to remove the loops in distress.

Early diagnosis requires the physician's attention to the patient's story, the physical examination, the high degree of suspicion and the performance of contrast tomography.[7]

Another unique factor is pain disproportionate to the signs in physical examination. The patient reports unusual pain, usually stated as the worst pain they have ever felt. Visceral ischemic pain is constant and intense, does not increase with palpation and is not associated with abdominal wall stiffness or peritoneal irritation in the initial phase. This results in the classic pain disproportionate to physical examination findings. These findings change as the ischemia progresses. After hours of evolution, in the presence of perforation, generalized peritonitis with signs of abdominal defense or even septicemia can be observed in a few hours [7]. Imaging examinations may demonstrate highly suggestive imaging such as pneumoperitoneum.

On suspicion of acute mesenteric ischemia, exploratory laparotomy should be performed immediately (class I, level of evidence B). Endovascular treatment should only be performed in selected cases (class IIB, level of evidence C).[8]

Atherosclerotic plaques are common in chronic mesenteric ischemia, especially with symptoms of postprandial mesenteric angina. Displacement of atherosclerotic plaques still remains vague in the literature and its incidence is unknown.

When there is a large segment affected, the risk of major resections becomes greater. The small intestine is responsible for most of the nutrient absorption and elements that are imperative for metabolism. Some patients develop short bowel syndrome (SBS). In adults, 75% of cases of SBS are due to massive intestinal resections, related to mesenteric infarction, small bowel volvulus, traumatic lesion of superior mesenteric vessels and intestinal flanges [9]. In the case described, there was no loss in the digestive process, nor need for food restrictions.

In laboratory tests, pronounced leukocytosis, which may exceed 20,000, may be the only abnormal parameter in patients with acute mesenteric ischemia [10]. Metabolic acidosis appears later on and is indicative of intestinal infarction. This happens due to the liver's ability to depurate lactic acid. Serum amylase and lipase may increase early on in the course of mesenteric ischemia. In the aforementioned case, due to the lack of specificity of blood tests and high clinical suspicion, no laboratory evaluation was performed.

CONCLUSION

Frequent association with other health problems and delayed diagnosis have made acute mesenteric ischemia a disease with high morbidity and mortality. Overall, survival did not change significantly over the past four decades.

Improvement in the outcomes of treatment are directly related to the first care of these patients by the clinical rescuer or surgeon. Therefore, continuing medical education and the high degree of clinical suspicion may change these results positively.

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