Case Report

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Double secondary aorto-enteric fistula: a case report

Abstract

Introduction: Endoprothesis infections (EIs) are rare postoperative complications of endovascular procedures, with incidence ranging from 0.2% to 0.7%. Secondary aorto-enteric fistulas presents a mortality rate of approximately 60%, featuring more prevalence the association with the duodenum (70%) and displays a rare association when endovascular procedures are performed.

Case report: This study reports the case of a 72-year-old male patient who developed a duodenal aorto-enteric fistula associated witha fistula in the sigmoid colon and left common iliac artery after undergoing by stentimplantation for aortic aneurysm repair. Successful treatment and surgical correction was performed.

Conclusion: Aorto-enteric fistulas after endovascular approach correspond to a rare complication with high mortality, being extremely important the early diagnosis and effective therapeutic approach.

Keywords: endoprosthesis, vascular fistula, intestinal fistula

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Introduction

Endoprothesis infections (EIs) are rare postoperative complications of endovascular procedures, with an incidence ranging from 0.2% to 0.7%.[1] Since 1993, when Chalmers *et al.* described the first infection of an iliac stent implanted endovascularly, endoprothesis infections have been the subject of study by the vascular community, especially with the increasing use of this group of materials in endovascular treatments and the high mortality associated to this complication, nearly 50%.[2] Aortoenteric fistulas can be classified as primary, when they involve a native aorta artery, or secondary, associated with the presence of a suture line / local prosthesis.[3] The second type, first presented in 1953 by Brock, is a rare condition and poorly described in the literature, corresponding to a potentially fatal complication, with a mortality rate of approximately 60%.[4] The condition usually occurs after close contact between the aorta and intestinal segment during surgical approach, and the risk is highly reduced using endovascular intervention. 70% of aorto-enteric fistulas involve the duodenum, with the jejunum being the second most common (12%). Symptoms usually begin after a median interval of 16 months from the endovascular approach, including mainly gastrointestinal bleeding, abdominal pain, fever, and signs of sepsis.[5] The rarity and high mortality rate of the condition make its occurrence of interest to the academic community.

Case report

JP, male, 72 years old, with hypertension and COPD, former smoker. He had had an Endurant bifurcated infrarenal endoprothesis implantation in October 2015 due to infrarenal abdominal aortic aneurysm of 7 cm largest diameter. In 2018 it was identified in control angiotomography a proximal and distal aneurysmal degenerations (endoleaks type IA and IB), with aneurysms of common iliac arteries: on the right with a maximum diameter of 2.9 cm and on the left with a maximum diameter of 3 cm. It was alsoidentified the presence of a pseudoaneurysm of the right common femoral artery, with 4.1 cm in diameter. In October of the same year, aneurysmectomy of the right commonfemoral artery was performed, with repair using an ipsilateral great saphenous vein patch.It was chosen not to perform the aneurysm repair at that moment due to the presence of purulent secretion at the surgical site. In November 2018, proximal cuff implantation of a bifurcated aortic stent was performed and exclusion of aneurysms of the common iliac arteries was performed with stent implantation by the technique of parallel stents, sparing hypogastric arteries.

In June 2021, the patient was transferred to the Cardiology Institute of SantaCatarina (ICSC) due to low back pain associated with asthenia, fever, and prostration. An angiotomography of the abdomen was performed and showed extensive permeative gaseous focus, probably due to aortic fistula with the distal portion of the duodenum. Empirical antibiotic therapy was started with Meropenem and Vancomycin. 6 days after admission the patient was surgically approached, an axillary-bifemoral bypass and laparotomy were performed. A cavity inventory revealed an abscess and a fistula between the duodenum and the aneurysmal sac (Figure 1), besides an abscess involving the sigmoid colon and the left common iliac artery. Drainage of cavitary abscesses wasperformed, duodenectomy of the fistulated portion with enteroenteroanastomosis and sigmoidectomy associated with terminal colostomy in the left iliac cavity. Then the external iliac arteries were isolated and ligated, with subsequent resection of the aorta at the level of the renal arteries, with removal of the bifurcated aortic endoprothesis (Figure 2), closure of the aortic stump below the renal arteries with 2-0 prolene yarn, and closureof the cavity.

Figure 1 Aorto-duodenal fistula.

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Figure 2 Product of bifurcated aortic stent graft removal.

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None.

Conflicts of intrest

None.

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