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Acute Spontaneous Dissection of Abdominal Aorta

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Abstract

Objective: Presentation of a case of symptomatic acute abdominal aorta (DAB) dissection treated endovascularly.

Material and Method: Hypertensive 49-year-old patient (abandoned the medication), male sex, admitted by guard in June 2019 for intense colic pain in the epigastrium (8/10), irradiated to the left flank of 5 days of evolution, self-medicated with nonsteroidal anti-inflammatory drugs without improvement, so who consults, an abdominal CT scan is carried out that shows dissection of the infrarenal abdominal aorta that extends to the primitive and external left iliac artery. Due to the persistence of pain that did not yield to treatment, an endovascular intervention was decided.

Results: An endologix AFX II bifurcated abdominal aorta stent graft 28-80 / 120-40 mm was performed without complications. Distal to the left branch, a dissection is observed that extends to the external iliac without compromising flow, so conservative behavior is taken. He is discharged without complications.

Conclusion: DAB is a rare clinical entity, the endovascular approach would seem to be safe and effective for this pathology.

Keywords

Abdominal Aorta; Thoracic Aorta dissection; Open surgery; Hypertensive

Introduction

Most cases of Aortic dissection originate at the level of the thoracic aorta [1]. Cases of abdominal Aorta dissections (DAB) have been reported as a result of instrumental manipulation (catheterization) and trauma, but spontaneous localized Aorta dissection at the abdominal level is a rare entity that has traditionally been treated by open surgery [2].

The objective of this work is to present a case of spontaneous Aorta dissection limited to the infrarenal segment of the abdominal Aorta, successfully treated endovascularly.

Material and Method

A 49-year-old male patient, hypertensive (discontinued the medication), with no surgical, traumatic history, or family history of aneurysm. He was admitted by guard in June 2019 for intense colic pain in the epigastrium (8/10), irradiated to the left flank of 5 days of evolution, self-medicated with anti-inflammatory drugs without improvement, so he consulted. Without alterations in intestinal transit, it does not present a marfanoid appearance or cutaneous hyperelasticity. He presents with arterial pressure of 200/90 mmhg, soft abdomen painful to palpation on the flank and left iliac fossa and left lumbar percussion fist +.

All palpable pulses, the sensitivity and motility in all the limbs conserved. It was studied with a transthoracic echocardiogram without abnormalities, normal laboratory and CT of the thoracoabdominal aorta was performed, evidencing dissection of the infrarenal abdominal aorta from 4.5 cm caudal to the origin of the left renal artery that extended to the left primitive and external iliac artery. Due to the persistence of pain that did not yield to treatment, an endovascular intervention was decided.

Results

An endologix AFX II bifurcated abdominal aorta stent graft 28-80 / 120-40 mm was performed without complications. Distal to the left branch, a dissection is observed that extends to the external iliac without compromising flow, so conservative behavior is taken. He is discharged without complications.

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Discussion

Aortic dissection limited to abdominal aorta (DAB) is a rare entity, with a reported incidence of 1 to 4% of all dissections [3]. The increasingly frequent use of CT images for the study of abdominal pain may be a factor that increases the frequency of identification of this pathology [2]. Spontaneous, traumatic, and iatrogenic causes are generally recognized as causes [3,4]. In spontaneous patients, the predisposing factors are similar to thoracic aortic dissection [1], it is more frequent in the sixth decade of life and in the male sex [3-5]. It has been associated with high blood pressure in more than 80% of cases and atherosclerosis 50% [4].

We can classify spontaneous abdominal aorta (DAB) dissections based on the time of presentation of symptoms as acute (less than 14 days) or chronic (> 14 days) [3]. Symptoms are not specific. In 70% of cases, they are acute [6]. Severe abdominal or low back pain, is the most common [1,3,6], may have acute visceral or lower limb ischemia [3] less frequently. Hypertension is common, but can enter with hypovolemic shock in case of rupture. In chronic cases, abdominal aortic dissection can be asymptomatic or cause slight and vague abdominal pain [6]. An abdominal pulsatile mass can be palpated in case of aneurysmatic degeneration.

The diagnostic method of choice is Angio CT with intravenous contrast.

Regarding treatment, it can be conservative (treating hypertension) in asymptomatic cases, with the Aorta not dilated and with careful follow-up [2]. Although there is no clear evidence, extrapolating the knowledge of thoracic Aorta dissection, in those cases where abdominal pain subsides and there are no other symptoms, it may be reasonable to follow it conservatively as well [2]. Patients with pain that does not respond to treatment, or with signs of rupture, or in the event of visceral or limb ischemia should undergo surgery. DAB aortic rupture occurs in 10% of cases and is associated with high mortality [4].

The natural history of DAB is not known, but we do know that DAB weakens the integrity of the aortic wall and can cause aneurysmal degeneration of the aorta. The coexistence of DAB and significant dilation of the Aorta has been proposed as an absolute indication of repair based on the high risk of rupture [5,6]. In the case of dissection of the thoracic aorta (type b), it has been postulated that there is a significant risk of rupture with a diameter of 5 cm [7]. In the case of DAB, the diameter of the aorta to which it must be operated is not defined, two groups with follow-up have reported rupture with diameters of 4 cm [8,9], based on this experience and the smaller diameter of the abdominal aorta [5,10] suggest intervening in the case of diameters of 3 cm or more.

Historically open surgery has been the gold standard of invasive treatment with good long-term results in patients with low operative risk [5,10]. From the surgical point of view, it has been classified based on the tear of origin to the DAB in supra or infrarenal, the latter being more frequent [5] and the morbidity and mortality much higher in suprarenal cases. Endovascular treatment, despite having fewer patients treated, has been associated with lower mortality and low complications. Therefore, endovascular repair has been widely accepted as the preferred option for DBA due to its minimally invasive characteristics and low incidence of perioperative complications [2,5,11,12]. This technique avoids having to clamp and suture a highly friable aortic wall [2]. The goal of endovascular treatment in D is to ensure false lumen thrombosis and subsequent aortic remodeling by sealing the site of entry. From an endovascular point of view, DBA can be classified as supraceliac, paravisceral and infrarenal according to the site of primary entry, since the approach to be followed differs in each case [11]. In supraceliacs (above the celiac trunk ostium), the distance between the renal ostium and the site of the renal ostium can be treated with endovascular tube grafts, infrarenal (below the renal ostium) in most 82% [11] of the patients. entry allows implantation of the stent graft. In the paraviscerals, the entry site is located between the celiac trunk ostium and the lower renal artery, endovascular treatment is difficult and should improve in the future.

Conclusion

DBA is a rare clinical entity, the endovascular therapeutic approach to DAB would appear to be safe, with high technical success and low complications in most cases.

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