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Case Report
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Ruptured Aortic Ulcer: Case Report

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Abstract

Introduction: Atherosclerotic Penetrating Ulcer (PAU) is a pathological condition characterized by the formation of an ulcerative lesion in the aortic wall.

Case Report: UPA presented to a 78-year-old female patient with hypertension, diabetes, heart disease, and a history of malignant breast neoplasia.

Report of the Procedure: Puncture using the Seldinger technique of the femoral artery for the correction procedure.

Conclusion: Minimally invasive interventions have gained ground in recent decades, with the endovascular technique with endoprosthesis implantation being the most used for correcting aortic ulcers.

Introduction

Penetrating Atherosclerotic Ulcer (PAU) is a pathological condition characterized by the formation of an ulcerative lesion in the aortic wall, starting in the intima layer and progressing to the elastic lamina and medial layer [1]. UPA makes up "Acute Aortic Syndrome" (AAS), together with aortic dissection, Intramural Hematoma (IMH) and aortic trauma with intimal laceration [2]. It's a rare condition, but potentially fatal, due to its complications. With the penetration of blood between the middle layer and the adventitia, it can cause intramural hematoma and aortic dissection, saccular aneurysmal degeneration, adventitial pseudoaneurysm and, in more serious cases, the rupture of this last layer, therefore the rupture of the aorta [3].

This work aims to report the case of an adventitial pseudoaneurysm resulting from a ruptured aortic ulcer patched with endovascular treatment.

Case Presentation

Female patient, 78 years old, hypertensive, diabetic, with heart disease, history of malignant breast neoplasm previously submitted to quadrantectomy, cholecystectomy due to cholelithiasis, denies smoking, continuously using Escitalopram, anastrozole, rosuvastatin, metformin, Olmesartan, amlodipine, metoprolol, spironolactone, methyldopa, clopidogrel, vitamin D, pantoprazole. Referred as an outpatient with a diagnosis of saccular aortic aneurysm.

Patient without abdominal or thoracic pain complaints, was in good general condition, flushed, hydrated, normotensive, eupneic, underwent abdominal tomography with contrast due to oncological follow-up with finding: Saccular dilation measuring 35 cm × 23 cm × 21 cm in diameter on the left anterolateral wall of the abdominal aorta infrarenal, 22 mm from the bifurcation, thrombosed, with a small ulcer measuring 4.5 mm (Figure 1, 2). Iliac arteries were patent and without stenoses, with a report of saccular aneurysm. The examination was evaluated by the team, noting that it was in fact an aortic ulcer, with the formation of a pseudoaneurysm. Endovascular intervention was chosen.

Procedure Description

Puncture using the Seldinger technique of the common femoral artery bilaterally using a 6F sheath. Passage of a 0.035 cm × 260 cm hydrophilic guide wire + 5fr centimeter pigtail catheter in the right common femoral artery + image acquisition under fluoroscopy. Pervious abdominal aorta, showing infrarenal aortic stenosis associated with posterior blurring in the distal region suggestive of bleeding (Figure 3).

Right and left common iliac arteries patent. Patent renal arteries. Exchange of the 6f introducer for 10F in left femoral access. The 0.035" hydrophilic guidewire was exchanged for a 0.035 cm ×

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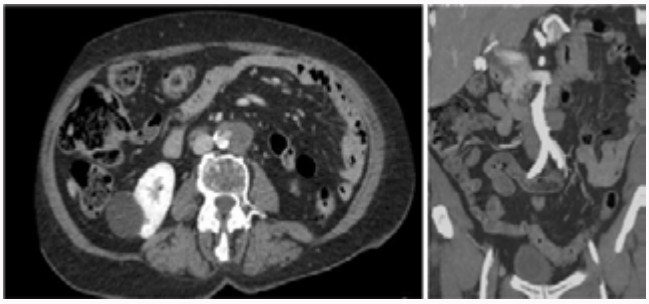

Figure 1 and 2: Abdominal tomography with contrast.

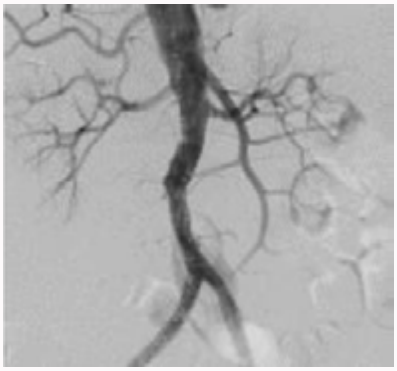

Figure 3: Pervious abdominal aorta.

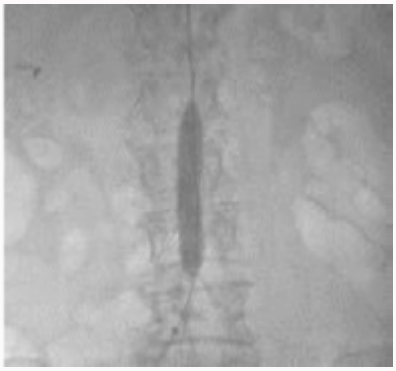

Figure 4: Balloon expandable stent.

260 cm Lunderquist wire in the right femoral access. 6F introducer removed from right femoral access. Passage of the Advanta V12 12 mm × 61 mm balloon-expandable stent released in the distal aorta region (Figure 4).

Control arteriography was performed demonstrating incomplete accommodation in the mid-proximal portion of the stent (Figure 5). New ballooning was chosen with a 15 mm × 40 mm MaxiLD balloon catheter (Figure 6).

Satisfactory angiographic control (Figure 7). Proglide 6F vessel occlude (Perclose) was used to seal the femoral punctures. It is necessary to use 2 units for adequate sealing.

Discussion

Aortic ulcers are a rare condition, corresponding to 2.3% to 7.6% of acute aortic syndromes, with aortic ulcers of the abdominal aorta being rarer than those of the descending thoracic aorta, with an

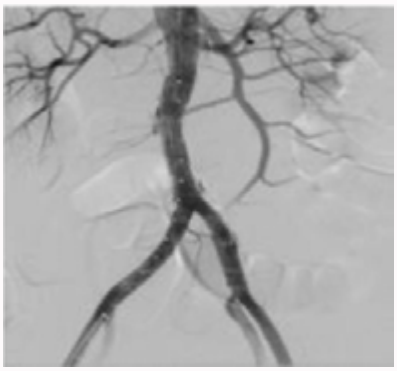

Figure 5: Control arteriography.

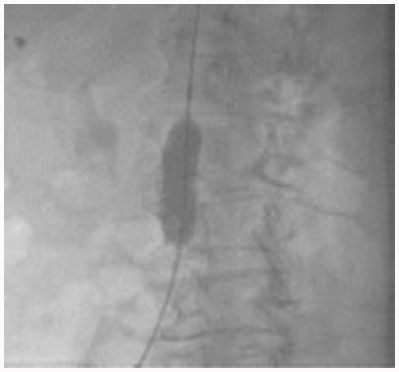

Figure 6: Ballooning with catheter.

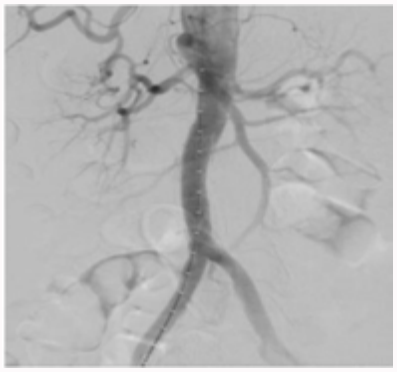

Figure 7: Angiographic control.

incidence of 17.3% and 82.7% respectively [4].

The main risk factors are high blood pressure, smoking and old age. The diagnosis of aortic ulcer can be challenging due to its non-specific symptoms. Currently, computed tomography is the test of choice for diagnosing aortic ulcers, allowing early detection of the condition [5]. Treatment of aortic ulcer depends on the extent and location of the lesion and may include drug therapy, control of risk factors, surgery or endovascular intervention [1].

The clinical treatment of aortic ulcers includes controlling high blood pressure, stopping smoking and controlling other associated risk factors. The indications for surgery or endovascular intervention for aortic ulcers are: Refractory pain, signs of rupture, accelerated growth of the ulcer associated with mural hematoma or pleural effusion. In asymptomatic ulcers, it is suggested that intervention

be proposed when there is a diameter greater than 20 mm or depth greater than 10 mm, due to the greater risk of complications [6].

When intervention is indicated, the options are conventional surgery with exclusion of the affected segment and replacement with a graft or endovascular technique with endoprosthesis implantation. Endovascular treatment of aortic pathologies has presented lower perioperative risks and a shorter hospitalization period compared to conventional surgeries, it also presents low rates of endoleak and complications requiring surgical repair, in addition to the therapeutic failure rate within 12 months between the two treatments. does not show a significant difference [7].

Conclusion

Infrarenal aortic ulcer is a rare condition, with non-specific symptoms, and computed tomography is a great ally in its diagnosis. Exclusive clinical treatment is an option for cases without complications, but in cases with rupture and formation of a pseudoaneurysm, intervention is necessary.

Minimally invasive interventions have gained ground in recent decades, with the endovascular technique with endoprosthesis implantation being the most used for correcting aortic ulcers.

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