

Case Blog

Title: Endovascular Treatment of Focally Dissected Infrarenal Abdominal Aorta with Self-expandable Closed Cell Design Bare Metal Stents

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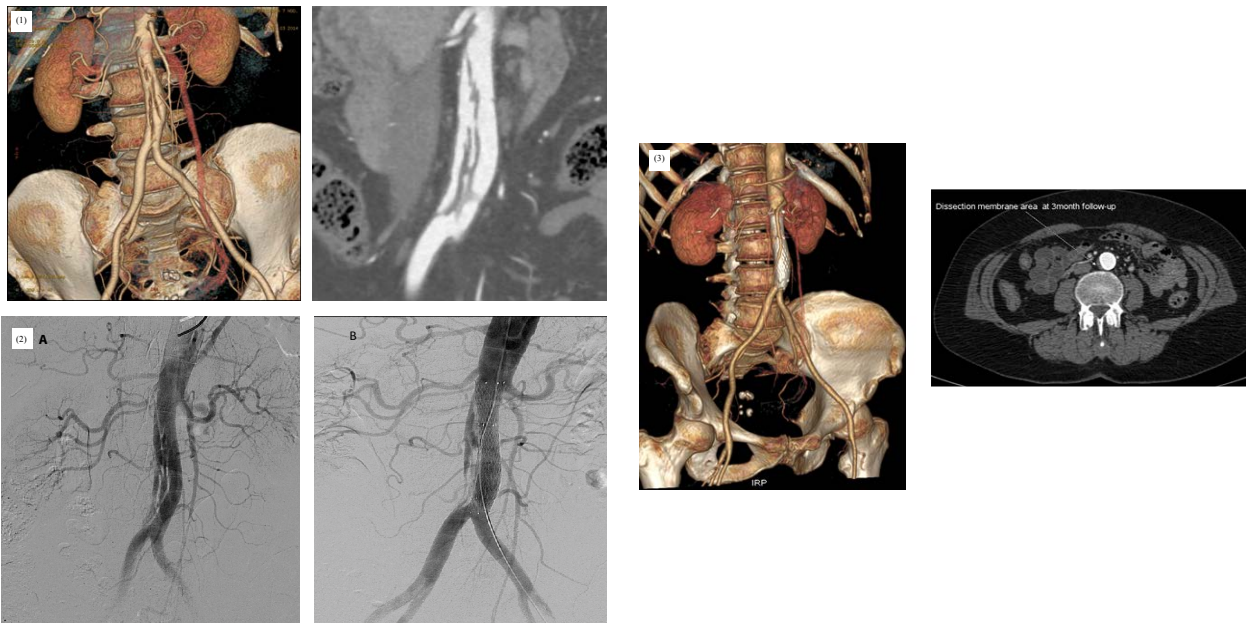


Figure 1: Initial CTA revealed focal severe dissection of total infrarenal aorta length.

Figure 2: Procedural digital subtraction angiography performed via a. brachialis dx (A) shows multiple dissection membranes of infrarenal aorta, starting from right accessory renal artery and ending on the level of aortic bifurcation. Image B shows digital subtraction angiography images after aortic SEMS implantation.

Figure 3: CTA follow-up in 3 month. In the area of aortic dissection only slight wall thickening revealed with no extension of dissection membrane upstream or downstream.

Summary

Dissection restricted to the infrarenal aorta is very rare and accounts for less than 1% of all aortic dissections. Up to date, there are only few cases reported about endovascular repair of spontaneous infrarenal aortic dissection [1].

We present 49 years old female, hospitalized to emergency department with spontaneous onset of severe lower back pain. Laboratory tests were not remarkable. Abdominal CTA revealed focal dissection of infrarenal aorta.

In order to avoid thrombosis of infrarenal aorta and prevent further distribution of intimal dissection, endovascular aortic angioplasty with self-expanding bare metal stents (SEMS) in overlapping technique was performed, avoiding otherwise complicated and traumatic open aortic repair. No intra- or postoperative complications were observed.

In 3 month follow-up patient was asymptomatic, control CTA revealed only slight wall thickening in the area of aortic wall dissection with no signs of further extension of dissection upstream or downstream.

Introduction

Dissection restricted to the infrarenal aorta is very rare and accounts for less than 1% of all aortic dissections. Clinical findings

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may vary from asymptomatic status to abdominal pain, lower extremity ischemia or rupture [2-4]. Up to date, there are only few cases reported about endovascular repair of spontaneous infrarenal aortic dissection [1].

Clinical Case Presentation and Procedure Details

We present 49 years old female hospitalized to emergency department with spontaneous onset of severe lower back pain. Objective findings revealed normal blood and coagulation tests, patient was normotensive. Clinical history revealed repeated hospitalization due to autoimmune encephalitis. Abdominal CT was performed and CTA revealed dissection of abdominal aorta focally confined to total length of infrarenal part, iliac and infra-inguinal arteries were intact.

In order to avoid thrombosis of infrarenal aorta and prevent further distribution of intimal dissection, endovascular aortic angioplasty with self-expandable bare metal stents (SEMS) was performed, avoiding otherwise complicated and traumatic open aortic repair. It is well known that aortic endovascular repair requires stents with large diameter and high radial force.

Endovascular approach was performed through left femoral artery disclosed during inguinal incision and introduction of intra-arterial 10F sheath. True lumen of aorta catheterized with Amplatz super-stiff guidewire. Additional visual digital subtraction angiography (DSA) control of descending aorta performed *via a. brachialis*. In this case no concomitant aortic dilatation was detected, therefore it was decided to treat dissected segment with 2 closed cell design aortic bare SEMS (Optimed sinus XL, 24x60mm and 24x80mm) in overlapping technique to achieve coverage of total infrarenal aorta length. No intra- or postoperative complications were observed. Patient discharged on 7th day after endovascular aortic angioplasty.

In 3 month follow-up patient was asymptomatic, control CTA performed: in the area of focal aortic dissection only slight wall thickening detected, no signs of further dissection extension detected, both renal arteries and iliac arteries were patent (Figures 1-3).

Conclusion

Endovascular repair of focally dissected infrarenal aorta provides beneficial treatment of surgically difficult pathology with low complication rate.

References

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