Endovascular Entry Closure using Amplatzer Vascular Plug for the Aortic Dissection in Sub-Acute Phase

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Case: 75 y/o, female

- Chief complaint
  Back pain
- History of present illness
  A 75-years-old female had a sudden back pain. She called an ambulance due to the intolerable pain.
- Past medical history
  Breast cancer (post-operative), Hypothyroidism, Hypertension

Computed Tomography (CT) on Admission

- Diagnosis
  Stanford type A aortic dissection
- Treatment
  Emergent ascending aorta replacement

CT at 1 Month after the Operation

A simultaneous angiographic image from the true and false lumens in a 60-degree right anterior oblique projection (A) revealed the location of the entry site. A 22-mm Amplatzer vascular plug 2 was delivered through a 7Fr long sheath inserted into the false lumen and deployed (B). The first disc was seated on the true lumen side of the entry. The second and third discs were released in the false lumen.

FL, false lumen; TL, true lumen; DAo, descending aorta; AAo, ascending aorta.

The false lumen was rapidly dilated from 41 mm to 52 mm.

1M

52mm

The false lumen of aortic arch to descending aorta was thrombosed. FL, false lumen; TL, true lumen.

CT at 1 Month after the Intervention

The false lumen was rapidly dilated from 41 mm to 52 mm at 1 month after emergent ascending aorta replacement.

Repeat open surgery was considered but carried a high risk of perioperative complications. Therefore, we performed endovascular therapy.

1. The proximal entry
Amplatzer Vascular Plug 2

2. The distal re-entries
Stentgraft coverage
Coil embolization

Summary

- The false lumen was rapidly dilated from 41 mm to 52 mm at 1 month after emergent ascending aorta replacement.
- Re-operation had high-risk for perioperative complications. Therefore, we planned endovascular closure with Amplatzer Vascular Plug 2, coil and stentgraft.
- At one month after the intervention, CT revealed false lumen of aortic arch to descending aorta was thrombosed, and distal aortic arch had shrunk to 38 mm.

Conclusion

We performed endovascular entry closure for aortic dissection with vascular plug and consequently reduced risk for rupture of distal aortic arch.

Declaration of interest

None.