Endovascular Treatment of Distal Aortic Arch Aneurysms: Experiences of Twelve Cases using Handcrafted Fenestrated Valiant Captivia Stentgraft

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Disclosure

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I have the following potential conflicts of interest to report:

Medtronic Japan Co., Ltd. has paid my travel budget to attend the LINC 2015.
Background

Although debranching TEVAR has been widely accepted as a less-invasive surgical treatment for distal aortic arch aneurysm, it diminished some benefits as endovascular therapy, such as surgical management of the carotid artery or sternotomy.
Objectives

Based on our experiences of handcrafted fenestrated Talent thoracic, we have performed TEVAR using handcrafted fenestrated Valiant captivia since 2012 when it became commercially available in Japan.

We report our initial experiences in 12 cases of TEVAR using handcrafted fenestrated Valiant captivia.
Fenestration using a cautery at a side of great curvature

Confirmation of graft marker as a side of the great curvature

Two markers sutured at a bottom of fenestration
87 year-old man
Multiple injuries
including aortic isthmus transection

Well-preserved LSA through SG fenestration

Isthmus injury & Mediastinal hematoma

Zone 2 case
22 year-old man
Multiple injuries including aortic isthmus transection
Well-preserved LSA through SG fenestration
Zone 2 case
77 year-old woman

Infammatory thoracic aortic aneurysm

Well-preserved LSA through SG fenestration

Zone 2 case
80 year-old man
Distal aortic aortic aneurysm s/p CABG (patent LITA & SVG)
Well-preserved LCCA through SG fenestration
Zone 1 case
72 year-old woman
Aortic arch & descending aortic aneurysm
Zone 0 case
86 year-old woman
Aortic arch aneurysm

Type Ia endoleak
probably due to short neck of lesser curvature
Early and mid-term results

June ’12〜Dec.’14 (n=12)

No early and late **death** / No stroke

No unintentional head-vessel covarage

Zone 2 (n=8)  
No endoleak

Zone 1 (n=2, concomittant Ax-Ax bypass)  
No endoleak

**Zone 0** (n=2, concomittant Ax-LCCA & Ax bypass)  
**type la endoleak** in one case (8.3%)

Aorta-related events (n=2, 16.7%)

  reTEVARs for aneurysmal enlargement (zone 3 case)

  **type la endoleak** (not effective)
In-situ new fenestration following closure of hand-crafted fenestration

In-situ fenestration using RF needle

Balloon dilatation of fenestration

reTEVAR at 2 years later
Potentially contra-indication of handcrafted fenestration probably increases a risk of unintentional head-vessel coverage and endoleak.
Conclusion

TEVAR using a handcrafted fenestrated Valiant Captivia stentgraft might be a treatment of choice for distal aortic arch aneurysm.

TEVAR using a handcrafted fenestrated Valiant Captivia stentgraft from zone 2 seems to be promising.

However, more experience will be necessary to conclude a usefulness of TEVAR from zone 0.
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