Usefulness of Endovascular VIABAHN VBX Balloon-Expandable Stent-Graft Placement for Symptomatic Coral Reef Aorta - Two cases report -

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Disclosure

Speaker name: Katsutoshi Takayama, MD.

I have the following potential conflicts of interest to report:

- Consulting
- Employment in industry
- Stockholder of a healthcare company
- Owner of a healthcare company
- Other(s)

I do not have any potential conflict of interest.
Coral reef aorta (CRA) is described as rock-hard calcifications in the visceral part of the aorta. These heavily calcified plaques grow into the lumen and can cause significant stenoses, which may lead to malperfusion of the lower limbs, visceral ischemia or hypertension due to renal ischemia.

Background

A Next-Generation Balloon-Expandable Stent-Graft (VIABAHN VBX; W. L. Gore & Associates, Flagstaff, AZ, USA) (VVBX) became available since July 2018 in Japan.
Gore VBX Stentgraft

Balloon expandable Stentgraft
(maximum diameter 16mm)
Sheath size 7F and 8F
Purpose

We reported 2 cases that underwent endovascular treatment for symptomatic CRA with VIABAHN VBX.
Case 1

- Female / 82 year-old
- C/C : Intermittent claudication
  (Fontaine classification: IIa, Rutherford category 1 )
- P/Hx : HT, HL >Medication Tx
  Aortic valve stenosis (post AVR) – 2 years ago
Coral reef aorta
Stent placement by VIABAHN VBX for the right CIA stenosis

VIABAHN VBX 8mm x 39mm
Although her symptom was slightly improved, it still persisted. Therefore we decided to perform additional intervention.
Coral reef aorta
PressureWire™ Certus™ (SJM)
How to measure pressure gradient by pressure wire

Pressure gradient was 40 mmHg!!
IVR using VIABAHN VBX for coral reef aorta

JADE 3mm x 4cm

8F Britetip sheath 45cm
IVR using VIABAHN VBX for coral reef aorta

VIABAHN VBX 10mm x 29mm

13atm 30sec.
Post IVR

Pressure gradient was 1 mmHg!!
Post IVR

Pressure gradient was only 3 mmHg !!
Post Aortography
Post Clinical Coarse

ABI: Pre  R 0.75,  L 0.75
    Post R 1.04,  L 1.16

Her symptom completely disappeared. She was discharged 1 week later without any complication.

No symptom was observed and ABI was within normal range at 10 months.
Case 2

• Female / 84 year-old
• C/C : Intermittent claudication
  (Fontaine classification: IIb, Rutherford category 1 )
• P/Hx : HL – 10 years ago->Medication Tx
  Rheumatoid arthritis (steroid Tx) – 10 years ago
Coral reef aorta
Coral reef aorta
Pressure gradient was 49 mmHg!!
Stent placement using VIABAHN VBX for coral reef aorta

Mustang 4 x 20mm  
VIABAHN VBX 8mm x 39mm  
Mustang 10 x 20mm
measurement of pressure gradient

Pressure 131/42mmHg
Post

Pressure 138/44mmHg, Pressure gradient was only 7 mmHg!!
Coral reef aorta 84 F

Pressure 131/43 mmHg,

Pressure gradient was only 2 mmHg!!
Post Clinical Coarse

ABI
Pre: R 0.65, L 0.72
Post: R 1.09, L 1.13
Her symptom completely disappeared. She was discharged 1 week later. No symptom was observed and ABI was within normal range at 6 months.
Coral reef aorta

- Incidence: rare
- Symptom: malperfusion of the lower limbs, visceral ischemia or hypertension due to renal ischemia.
- Surgical treatment: mortality 11.6% (n:70)

Treatment of Symptomatic Coral Reef Aorta by Endovascular Stent-Graft Placement

Johannes Holfeld, MS, Roman Gottardi, MD, Daniel Zimpfer, MD, Marion Dorfmeister, MD, Julia Dumfarth, MS, Martin Funovics, MD, Maria Schoder, MD, Ernst Weigang, MD, Johannes Lammer, MD, Ernst Wolner, MD, Martin Czerny, MD, and Michael Grimm, MD

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2 cases treated by Gore TAG
Both cases were successful without any complication.

134 patients and 213 lesions
- Technical success: 100%
- @ 9 month MAE: 3 (2.3%, target lesion revascularization), no device-related serious adverse events, 1 unrelated death
In conclusion

VIABAHN VBX placement may become first treatment option for symptomatic Coral Reef Aorta.
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