Coil Embolization of Giant Right Coronary Artery Aneurysm with unknown cause

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Coronary aneurysm

- A coronary artery aneurysm is defined as a coronary artery dilatation that exceeds by 1.5 times the diameter of normal adjacent segments.
- Progressively enlarged CAAs in a relatively short follow-up period of time necessitates surgical intervention, since they may have potential hazardous complications, such as rupture or embolism.
Case ST  76y.o male

Problem list

• #1. Hypertension
• #2. Dyslipidemia
• #3. Diabetis Mellites
• #4. Choronic kidney disease  (Cr =2.2mg/dl eGFR=21.2)
• #5. Brady-tachy syndrome (post PM implant)
• #6. Transient ischemic attack (Warfarin medication)
• #7. Post-infarct angina (post PCI and CABG)
• #8. Multiple Giant Coronary Aneurysm

• Pt have no history of Kawasaki disease, Behchet disease, and Collagen disease.
Present illness(1)

• The patient had been on medication for hypertension, hyperlipidemia, and Diabetes mellitus for more than 20 years.

• The patient had a long history of multiple coronary angioplasties (first angioplasty in 1998).

• Coronary bypass surgery with the diagnosis of subendocardial infarction as well as the presence of the coronary aneurysm was performed on 4/8/2008.
Volume Rendering image of plain CT 4/8/2008
Diameter of CAA

1.75cm
Present illness (2)

- After bypass surgery, he is doing well until the occurrence of syncope attack which was diagnosed as brady-tachy syndrome. PM implantation was underwent on January 2011.
- Pt began to feel chest discomfort on effort from February 2012.
- Due to the presence of the chronic kidney disease, minimum contrast angiogram was required to confirm the patency of bypass graft and progression of native artery.
Coronary angiogram was performed on 7/11/2012
Coronary aneurysm
4.23*4.12*6.21cm

7/24/2012
gated plain MDCT
How to treat this giant aneurysm?

Distal and proximal embolization
Isolation

Packing
Coil used in this case

CASHMERE coil
Provided by Codman JJ

TORNAGE coil
Provided by Medicos Hirata

Anchoring property

Strong thrombogenous property
2012/8/1
coil embolization was performed
Coil embolization to the outflow of coronary aneurysm

CASHMERE 5mm*12cm  1 piece
TORNADE 4mm*2mm  5 pieces
Coil embolization to the inflow of coronary aneurysm

The contrast media 20ml

CASHMERE 4mm*6cm  1 piece
TORNADE 5mm*2mm  4 pieces
CAA diameter: 4.22*4.15cm
Summary

• 76 years old male who have multiple coronary aneurysm with unknown cause was reported.
• Progressively enlarged CAA in a relatively short follow-up period (4 years), located in mid RCA, necessitates some intervention to treat.
• Distal and proximal coil embolization to isolate aneurysm was performed in this case.
• Careful follow-up of aneurysm size by CT was necessary.