Flow modulator in treatment of complex subclavian artery aneurysm

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Disclosure

Speaker name: Tomasz Szpotan

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)

- [x] I do not have any potential conflict of interest
Aneurysm treatment

GOAL

Exclusion blood flow in aneurysm sac
Aneurysm treatment

1. Open surgery

2. Endovascular
   - Stentgraft
   - Coils
   - Liquid embolics
Aneurysm treatment

1. Open surgery
2. Endovascular
   - Stentgraft
   - Coils
   - Liquid embolics

Exclusion of blood flow in sac
Complex aneurysm treatment

1. Open surgery

2. Endovascular
   - Fenestreted, branched stentgrafts
   - Sealing devices
   - Coils
   - Mixed techniques
Complex aneurysm treatment

1. Open surgery
2. Endovascular
   • Fenestreted, branched stentgrafts
   • Sealing devices
   • Coils
   • Mixed techniques

Exclusion of blood flow in sac
Complex aneurysm treatment

But what if we cannot:

- use fenestrated, branched stentgrafts (size limits)
- sacrifice branch artery
Complex aneurysm treatment

GOAL

Exclusion of blood flow in sac
Complex aneurysm treatment

GOAL

Exclusion of blood flow in sac

Preventing rupture of aneurysm
Preventing rupture of aneurysm

Mechanics of fluids

Laminar flow

Turbulent flow

Wall stress

Laminar flow

Wall stress
FLOW MODULATOR

New treatment method in extracranial aneurysms

Stent made of three-dimensional braided wire mesh
Laminar flow:

- increases branch flow
- decreases wall stress
- causes laminar clot formation

1 According to Cardiatis data
Patient

69 years old female with HA, COPD
Resection of benign larynx tumor in early 90’s

In **Doppler US of carotid arteries – aneurysm of left subclavian artery** was detected.

No history of injury in this location

**AngioCT examination showed left subclavian artery aneurysm with vertebral artery, thyrocervical trunk and stenosed internal thoracic artery originating from aneurysm sac.**

**Significant proximal and distal landing zone difference.**
Patient
Patient

Surgical brachial access – 7F 55cm long sheath
Percutaneous femoral access – 5F sheath
MFM stent implantation – 12mm / 80mm
Patient

Surgical brachial access – 7F 55cm long sheath
Percutaneus femoral access – 5F sheath
MFM stent implantation – 12mm / 80mm
Patient

Follow-up angioCT after 15 weeks
Patient

Follow-up angioCT after 15 weeks
Patient

Follow-up Doppler US after 15 weeks
Aneurysm treatment with flow modulator

REVOLUTION? – EVOLUTION
Next method for aneurysm treatment

Suitable for patients with:
1. Peripheral arteries aneurysms
   - Complex
   - Fusiform
   - Bifurcation
   - Different size of landing zones

2. Aortic aneurysms with branch arteries
Thank you for your attention