

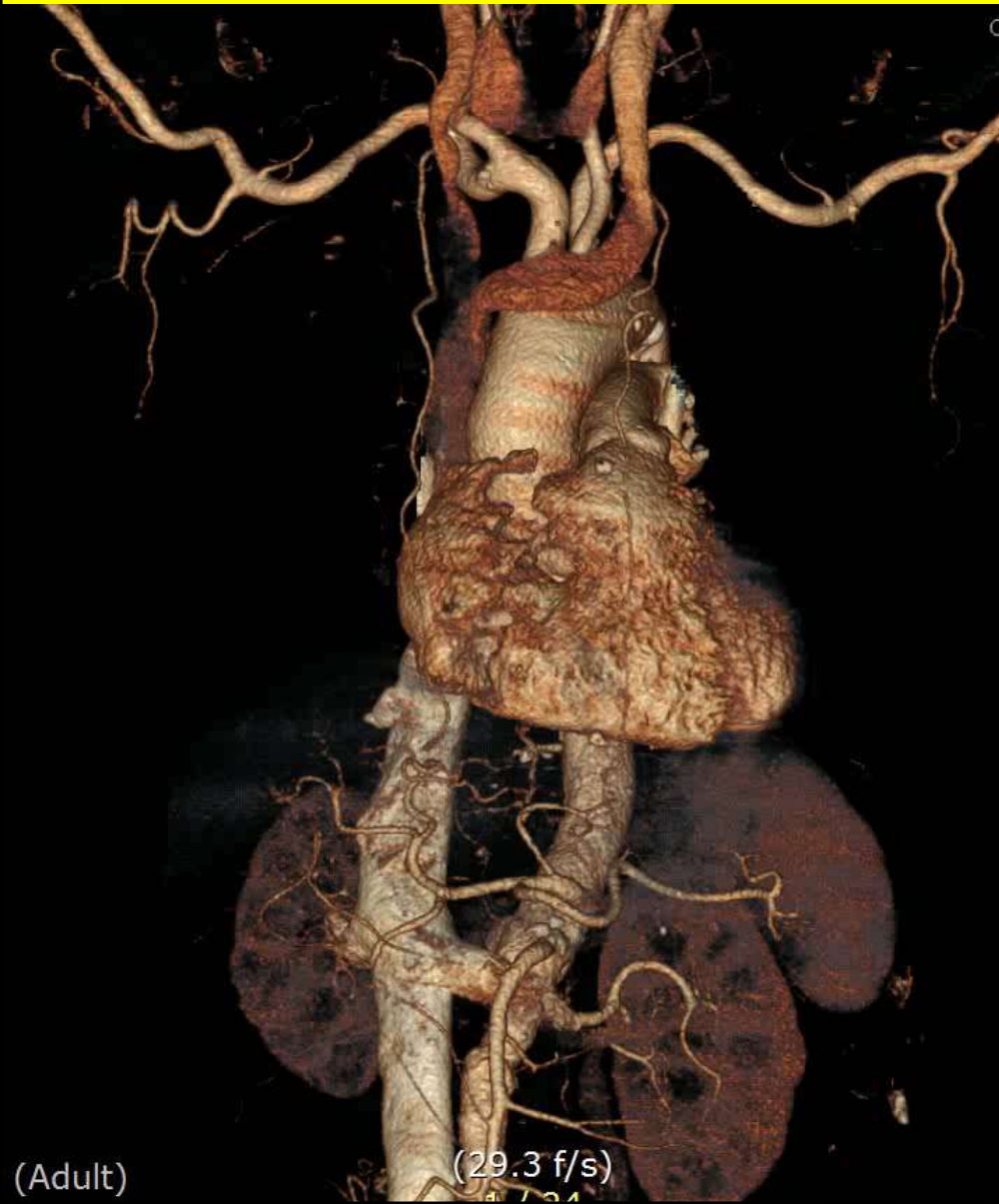
Case report:
**Multilayer Flow Modulator(MFM) for
Pararenal Aneurysm with AneurysmFlow**

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Saccular Aneurysm in Perivisceral Aorta

- F/67
- Hypertension(+), Diabetes Mellitus(-), ischemic heart disease(-), renal insufficiency(-)
- Hepatitis(-), Tuberculosis(-)
- History of spinal surgery in 2013
- FUO in local hospital in April 2017
- Epidural abscess drainage in May 2017
- Compression fracture T12 due to slip down in May 2017
- hematochezia due to duodenal ulcer in June 2017

Initial CT scan



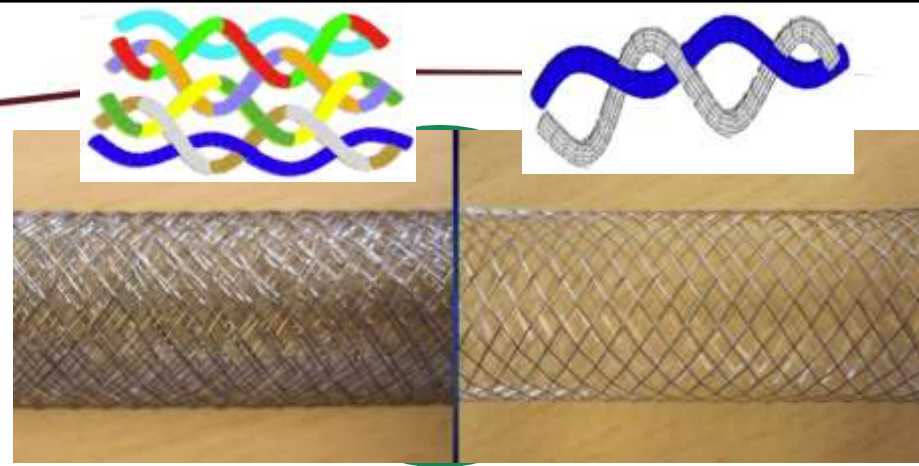
**2*4cm sized
Saccular Aneurysm
in posterior aorta
between renal artery and SMA**

No active inflammation in PET CT

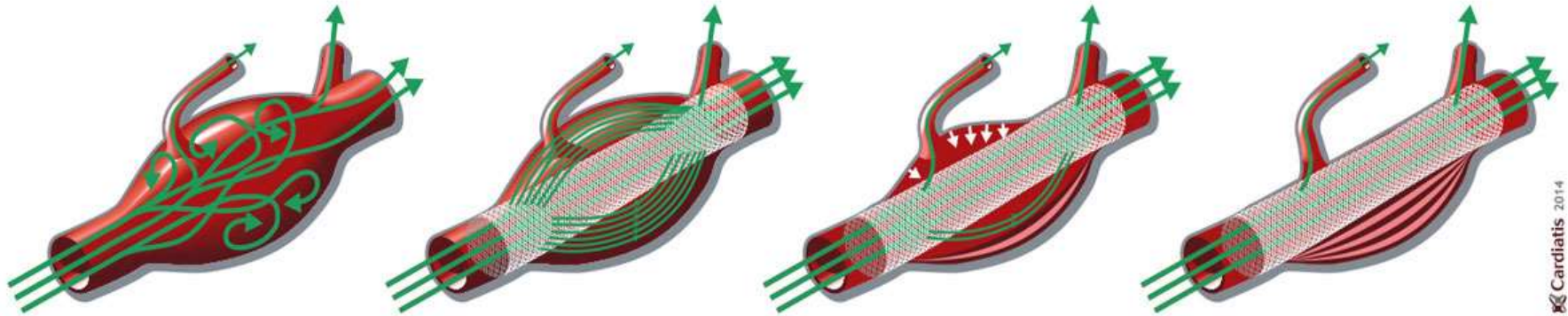
The Concept

Endothelialization

The flow lamination excludes the aneurysm from the blood circulation by inducing a physiological thrombus formed of lines of Zahn.
The MFM[®] gets endothelialized, permitting the reduction process to start.



Fusiform Aneurysm



Without MFM

Vorticity in the aneurysmal sac

With MFM

Reduction of wall shear stress (WSS) and channeling flow to branches

Wall shrinkage close to the branch
Formation of a layered organized thrombus

Organized thrombus and branches patency

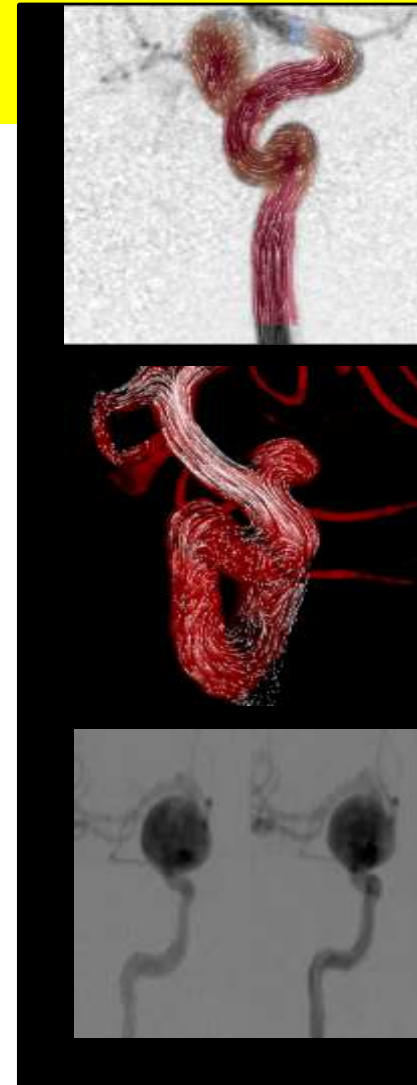
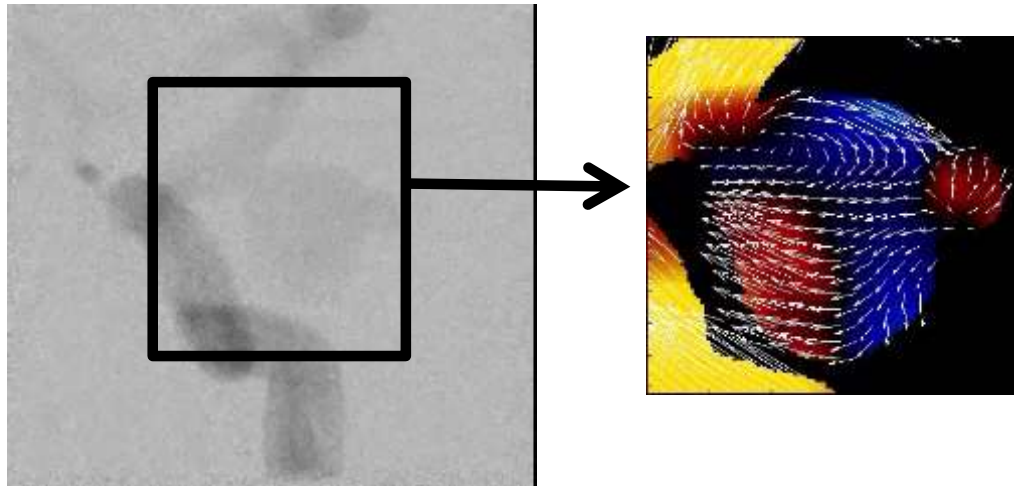
Cardiatis 2014

AneurysmFlow

- Extract & display “hidden” flow information from the dynamics of X-ray sequences:

Clinical benefit:

- Pre-treatment support for decision making
- Post-treatment analysis of result



Aneurysm Flow in Cerebral Aneurysm



Evaluation before
and after Flow
diverter

DSA with
60 fr/s
3-5cc contrast /s
for 4 second

Contrast Transit time

Contrast concentration

Flow velocity

Flow direction

► Interventional Strategy

► Introduction side : Right

Note: This report is an advisory recommendation for physician reference.

Collateral arteries	Coverage	Presence of stenosis
BCT	No	NA
LCA	No	NA
LSA	No	NA
Celiac trunk	Yes	No
SMA	Yes	No
Left Renal	Yes	No
Right Renal	Yes	No
Left Iliac	No	NA
Right Iliac	No	NA

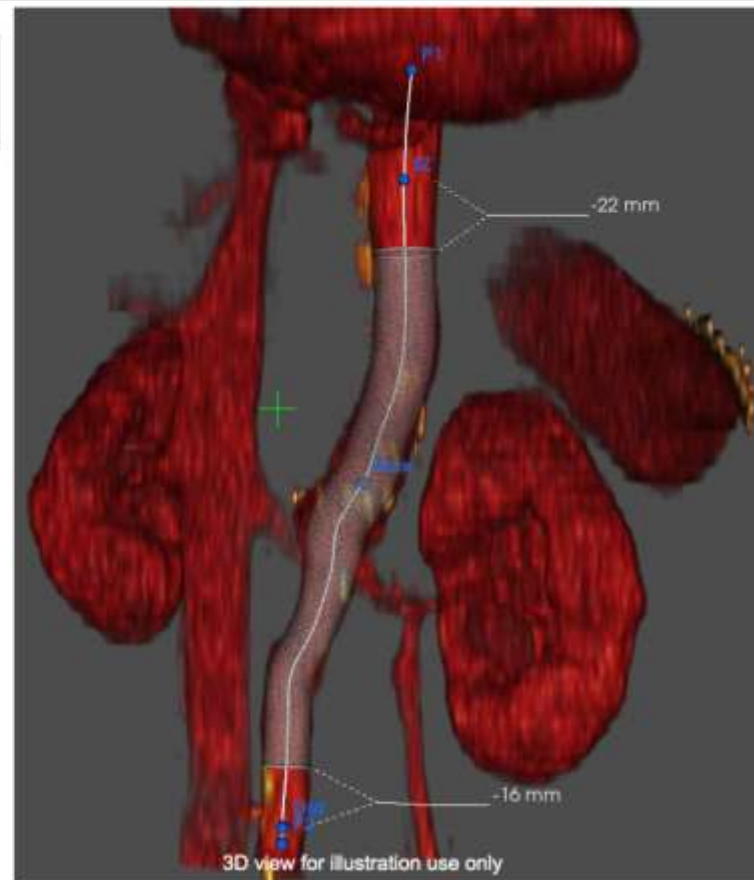
► Devices

► Aorta

CTMS

CTMS 25100 / 18 Fr ●

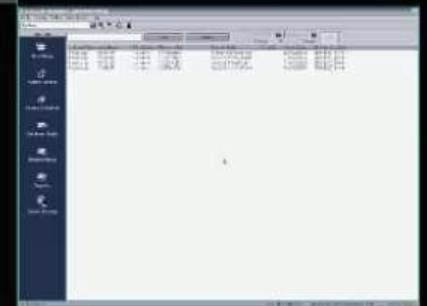
Stiff guidewire: 300 mm



MFM with Aneurysm Flow



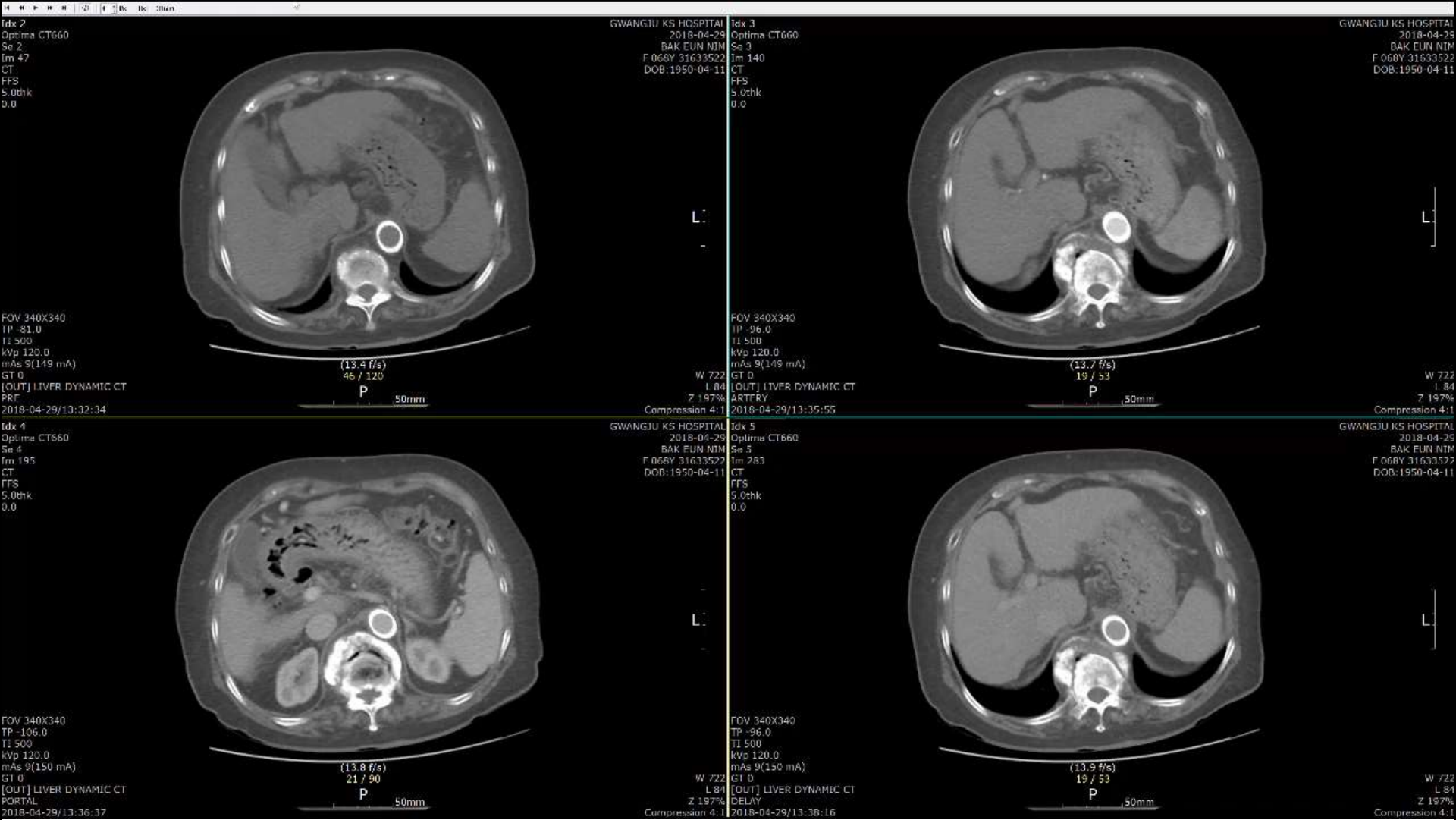
Saccular Aneurysm
Conventional angiography



CT in 3months



CT in 4months



Conclusion

- **MFM(Multilayer Flow Modurator) as a alternative option for conventional open surgical repair of pararenal aneurysm.**
- **AneurysmFlow for cerebral aneurysm may show hemodynamic information for aortic treatment.**

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