



Study Protocol

AVM treatment planning with *syngo* Dyna4D

Neuro Interventions

syngo Dyna4D was essential in identifying the treatment plan for this patient.

Courtesy of

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Supported by

syngo Dyna4D

System & Software

Artis Q biplane with
PURE® VD11
syngo X Workplace VD10

Case Description

Patient history

The patient was referred for a cerebral angiogram to assess an arteriovenous malformation that was discovered as an incidental finding.

Diagnosis

A 2 cm × 2.3 cm arteriovenous malformation demonstrated in the medial aspect of the posterior temporal lobe on the right side. This is supplied by branches arising from the P2 segment of the right PCS, and drains to the right transverse/s-shaped sinus via veins traversing the tentorium cerebelli. There is a 5 mm × 5 mm aneurysm positioned at the posterior aspect of the nidus (likely venous), best appreciated on the *syngo* Dyna4D volume.

The application of *syngo* Dyna4D provided the following additional information: *syngo* Dyna4D clearly demonstrates that one of the two main arteries (both from P2 segment of the rPCA) are not filling the nidus

at all, which is not demonstrated on the DSA images.

Out of the one main feeding artery, it is possible to perfectly delineate which of the two “sub-arteries” are supplying the intranidal aneurysm. This allows the interventional team to clearly identify which artery to embolize first.

Treatment

syngo Dyna4D was essential in identifying the treatment plan for this patient. Embolization of the AVM is due to take place later this year.

General comments

Manipulation of the *syngo* Dyna4D volume allows the clinicians to visualize filling of the AVM in any projection of the 3D model. This results in the most effective planning of the embolization treatment.

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Acquisition protocol	12s Dyna4D
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Injection protocol

Catheter position	Vertebral artery
Contrast medium (CM)	240 mg iodine/mL
Dilution (CM/Saline):	No
Injection volume	20 mL
Injection rate	2.5 mL/s
Duration of injection	8 s
X-ray delay	No
Power injector used	Yes

Reconstructions

Primary

Name	Dyna4D Sub4D Full HU Smooth
VOI size	Full
Slice matrix	512 × 512
Kernel type	HU
Image characteristics	Smooth
Reconstruction mode	Sub
Viewing preset	Dyna4D

Clinical Images



Figure 1: syngo Dyna4D is used to “untangle” the AVM to perfectly delineate which of the two subarteries are supplying the intranidal aneurysm



Figure 2: DSA image which demonstrates AVM arising from the right vertebral artery

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