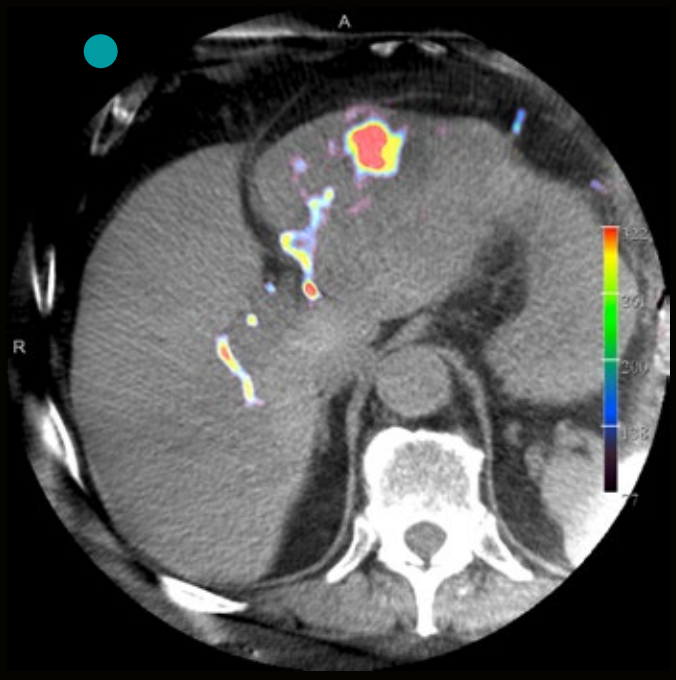
Study Protocol

Transarterial chemoembolization of a hepatocellular carcinoma in the liver



Courtesy of
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Supported by
syngo DynaPBV Body

System & Software
ARTIS icono floor VE2 with *syngo* Applications Software VE2

Case Description

Patient history
81-year-old male patient with a singular hepatocellular carcinoma in liver segment II/III, initially diagnosed in May 2021. Additionally, he has history of lung cancer and oropharynx carcinoma.

Diagnosis
No evidence of metastasis.

Treatment
First chemoembolization performed in June 2021.

Current retrograde puncture of the common femoral artery on the right side and insertion of a 4F sheath without complications. Probing of the coeliac trunk using 4F C2. Performance of *syngo* DynaPBV Body with detection of known tumor lesion in segment II/III. Identification of the tumor feeder. Superselective DEB TACE of the lesion with feeders from segment II and segment III (approximately 20 mg farmorubicin).

Another *syngo* DynaPBV scan was performed after the embolization. No evidence of residual tumor perfusion in final PBV map.

General comments
With the help of Dyna3D vessel map reconstructed from the *syngo* DynaPBV Body fill run, we can ensure the proper position of the catheter and identify the arterialized liver lesions/ tumor portions. It is helpful to identify all vessels supplying the tumor.

Comparing the PBV map before and after the embolization, we could assess the success of the embolization and predict a complete response with great confidence.

Tips and tricks
Proper breath-hold of the patient is crucial, explain the importance of this cooperation to the patient prior to the examination.

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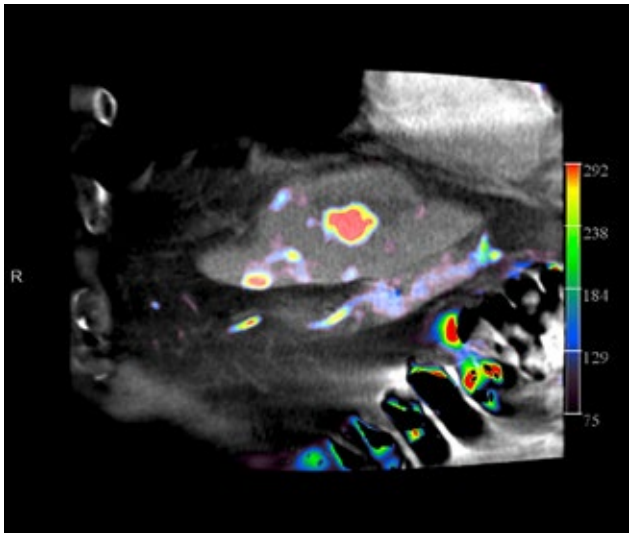
Acquisition protocol	**4s DynaPBV Body – same for both runs, pre and post treatment**

Injection protocol	
Contrast medium (CM)	Iodine 370 mg/mL
Dilution	50%
Injection volume	10 mL
Power injector used	Yes
Injection rate	2.0 mL/s
Duration of injection	5s
X-ray delay	2s
Catheter position	Hepatic artery

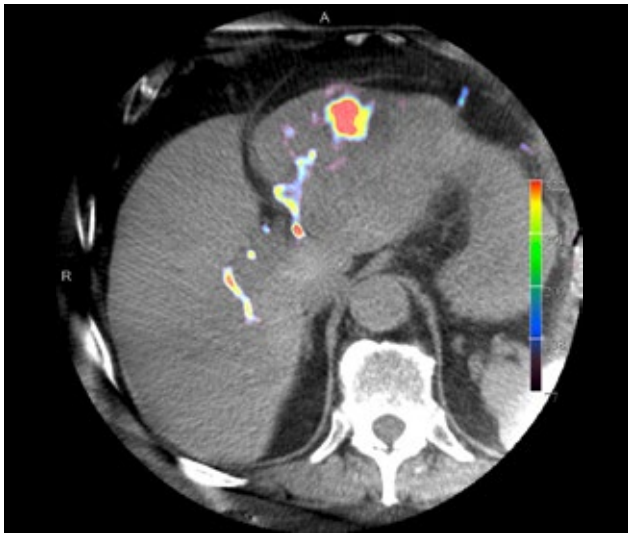
Reconstructions	**Primary**
Name	DynaPBV Body
VOI size	Full
Slice matrix	0.5 mm
Kernel type	HU
Image characteristics	Auto
Reconstruction mode	Nat Mask, Nat Fill, Sub
Viewing preset	PBV

Clinical Images

Figure 1



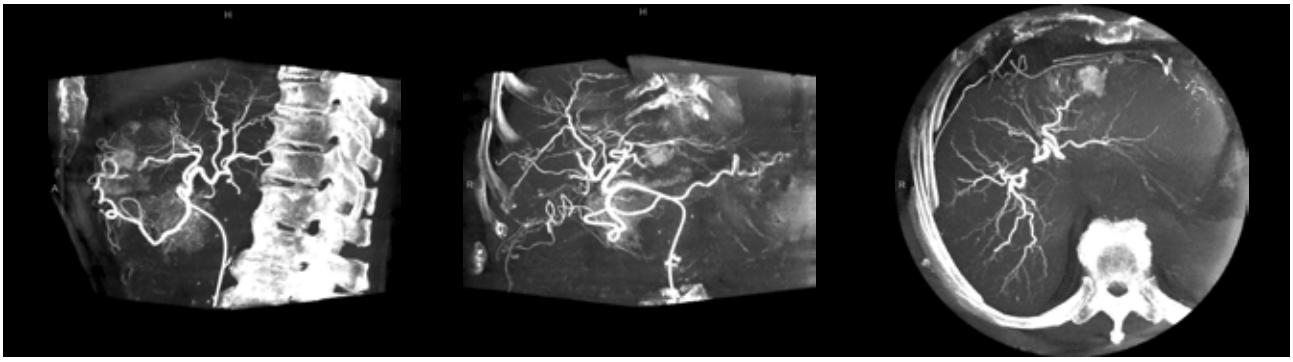
MPR Dual Volume frontal view



Transversal view

syngo DynaPBV visualization. Subtracted PBV reconstruction overlayed to reconstruction of the mask run before TACE.

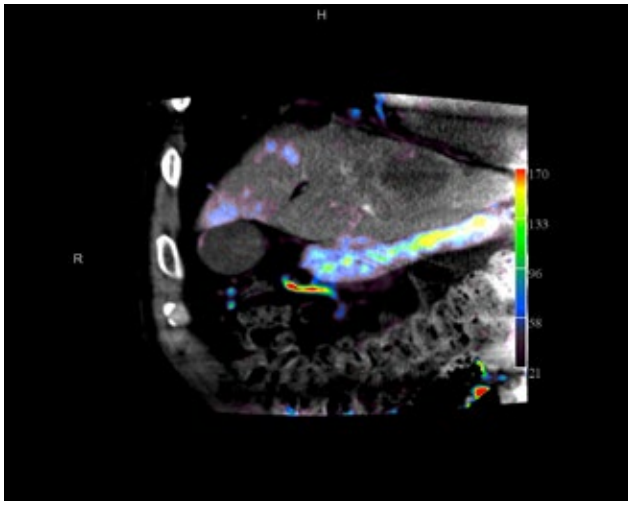
Figure 2



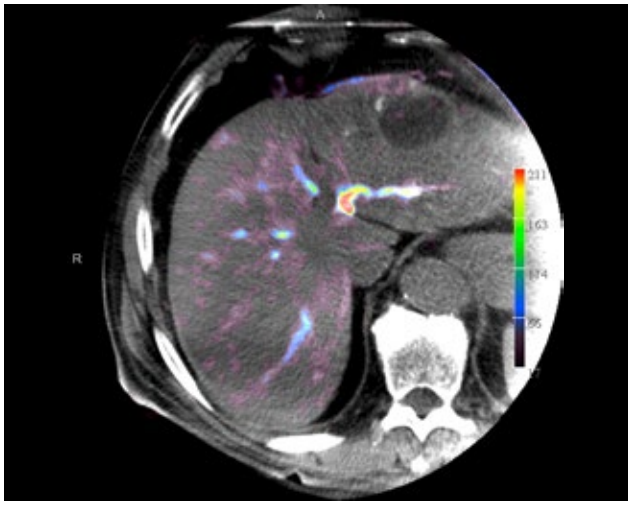
Thick MIP sagittal view | Frontal view | Transversal view

Reconstruction of the fill run of the *syngo* DynaPBV acquisition, visualizing the vessel map and feeding arteries to the HCC tumor.

Figure 3



MPR Dual Volume frontal view



Transversal view

syngo DynaPBV visualization. Subtracted reconstruction overlayed to reconstruction of the mask run after TACE.

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