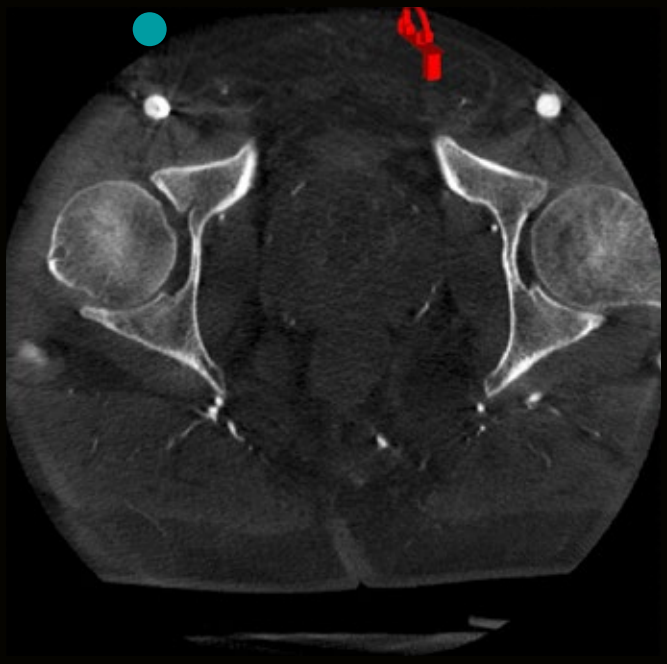
Study Protocol

Visualization of prostate arteries

supported by Artis Q and *syngo* Embolization Guidance

Vascular



Case Description

Patient history
A 50-year-old man with benign prostate hyperplasia and acute urinary retention was referred for prostate artery embolization. He had been experiencing lower urinary tract symptoms for nearly three years and had been treated medically with no clinical improvement.

Diagnosis
Benign prostate hyperplasia and acute urinary retention.

Treatment
With the catheter positioned in the abdominal aorta above the bifurcation, we got perfect visualization of the prostate and supplying vessels from both the left and right side. With the help of *syngo* Embolization Guidance we obtained a map of supplying vessel that was used during embolization. Successful vascular occlusion was then accomplished with microspheres (300–500 mm in size) for embolization.

General comments
syngo Embolization Guidance with arterial contrast injection facilitates selective prostate artery catheterization, which has the potential to reduce dose and contrast medium. We marked the distal point of the prostatic artery and the proximal internal artery. *syngo* Embolization Guidance automatically creates the track between the two points, which can be overlaid to the live fluoro images.

Tips & Tricks:
First, the power injector was readied. An injection protocol with an X-ray delay was chosen to get good visualization of the iliac arteries and prostate. 6s DynaCT Body acquisition protocol was used. The injector is triggered by the system and, according to the injection protocol, the C-arm starts DynaCT rotation with a 7 s delay.

Courtesy of
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Supported by
- *syngo* Embolization Guidance
- *syngo* DynaCT
- *syngo* 3D Roadmap

System & Software
Artis Q floor VD11
syngo X Workplace VD10

SIEMENS Healthineers

Protocol

Acquisition protocol	6sDCT Body
Injection protocol	
Catheter position	Pigtail 5F; abdominal aorta above bifurcation
Contrast medium (CM)	350 mg iodine/mL
Dilution	No
Injection volume	65 mL
Injection rate	5 mL/s
Duration of injection	13 s
X-ray delay	7 s
Power injector used	Yes

Reconstructions	**1. Reconstruction**
Name	DynaCT Body NatFill HU Normal HU
VOI size	Full
Slice matrix	512x512
Kernel type	HU
Image characteristics	Auto
Reconstruction mode	NatFill
Viewing preset	DynaCT Body

Clinical Images

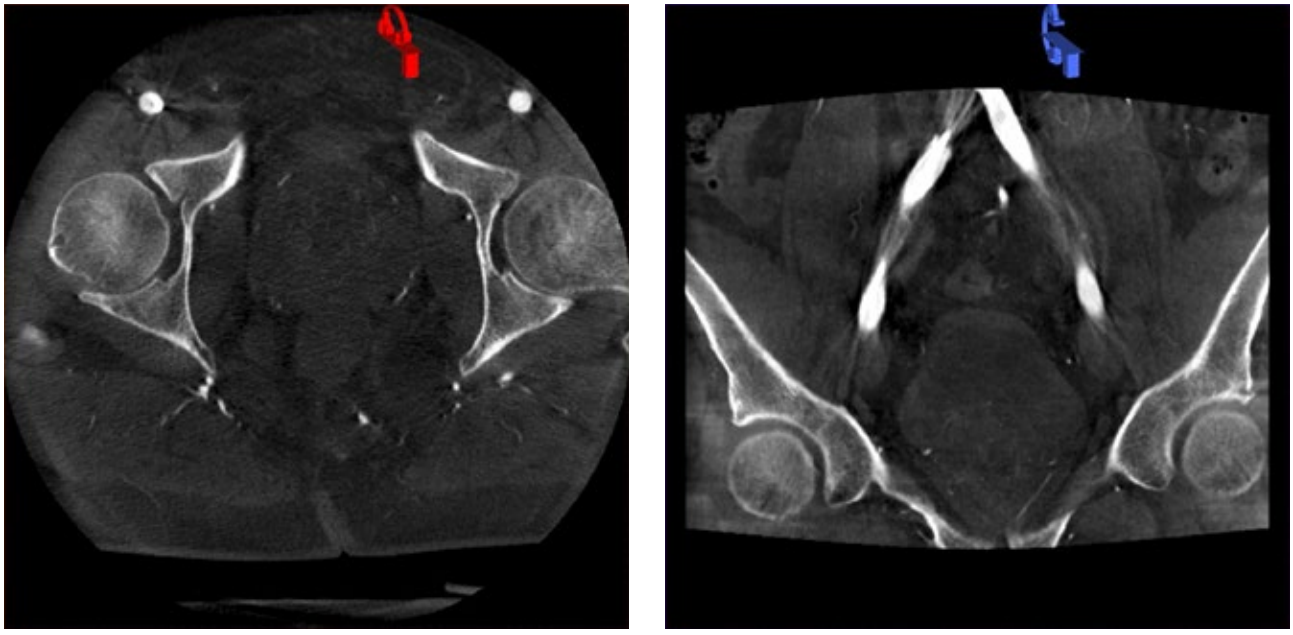
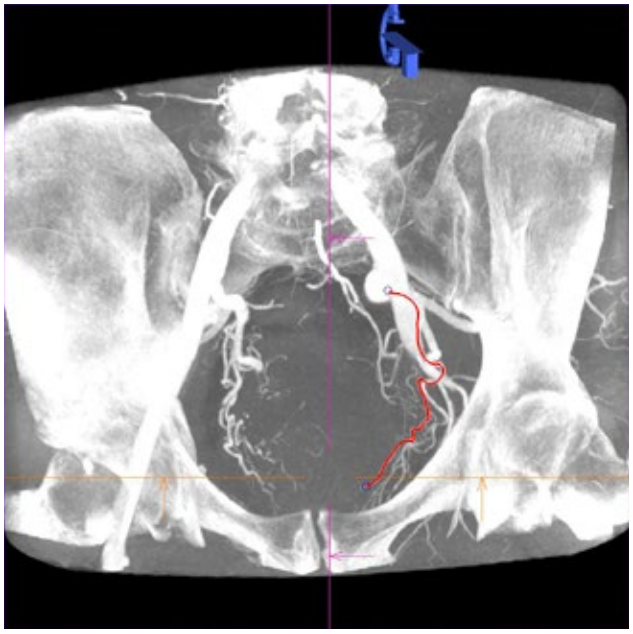


Fig. 1 a, b. Visualization of prostate on 2 mm axial and coronal MPRs.



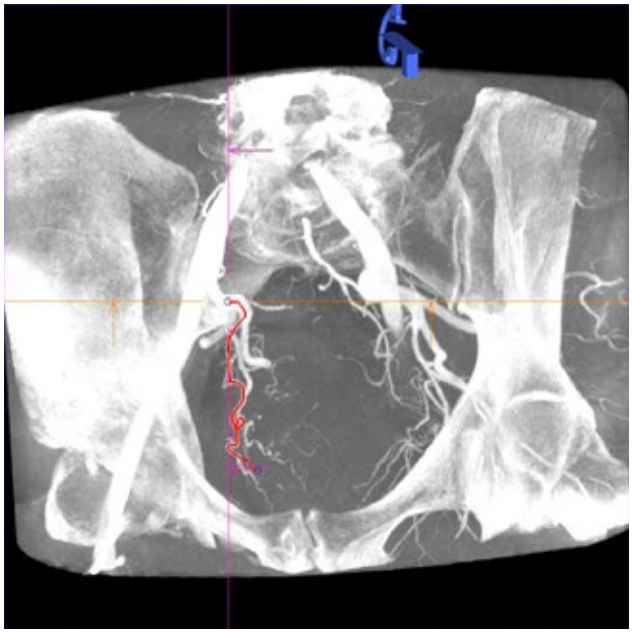


Fig. 2 a, b. 75 mm MIPs (left and right side) with vessel trajectory identified by *syngo* Embolization Guidance.

The statements by Siemens' customers presented here are based on results that were achieved in the customer's unique setting. Since there is no "typical" hospital and many variables exist (e.g., hospital size, case mix, level of IT adoption), there can be no guarantee that other customers will achieve the same results.

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Published by Siemens Healthcare GmbH · AT 7665-02 1019 digital · ©Siemens Healthcare GmbH, 2019