

Case Report: Superficial Femoral Angioplasty

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Patient history

62-year-old male with life limiting claudication at 100 yards, worse on the right than on the left, previous left iliac angioplasty.

Indication for MR Angiography (MRA): Assessment for suitability for right iliac or superficial femoral angioplasty.

Clinical scan contrast-enhanced MRA preceded by non-contrast MRA with *syngo* Native SPACE* as part of a clinical evaluation of the technique.

*WIP – Work in progress. The information about this product is preliminary. The product is under development and not commercially available in the U.S., and its future availability cannot be ensured.

Sequence details

Images have been acquired using our 1.5T MAGNETOM Avanto with software version *syngo* MR B15 and the peripheral array coil.

ECG triggered 3D acquisition using *syngo* Native SPACE (pre-release WIP).

Two consecutive measurements with data collection timed to maximal flow (measurement 1) and minimal flow (measurement 2) with automated subtraction of the two data sets. The slow flow trigger time was set to 0 to allow collection of this data before the arrival of the systolic peak and the fast flow scan was timed to peak flow as ascertained from a simple trans-axial inflow sensitive FLASH cine sequence.

Measurement one is dark blood and measurement two is bright blood – the difference images being the raw data with an angiographic type contrast where the lumen of the vessel is depicted with high intensity.

The spatial resolution of the scan is 1.2 x 1.2 x 1.3 mm - 64 slices were acquired.

Inline subtraction and Inline coronal maximum intensity projection (MIP) were selected to facilitate timely evaluation of the results of the scan. Echo Train Length 69 with Constant Flip Angle Mode.

Bandwidth 870 Hz/Pixel, Echo Time 38 ms, RR interval 975 ms.

Total Scan time approximately 3:40 per station (heart rate dependant).

Imaging findings

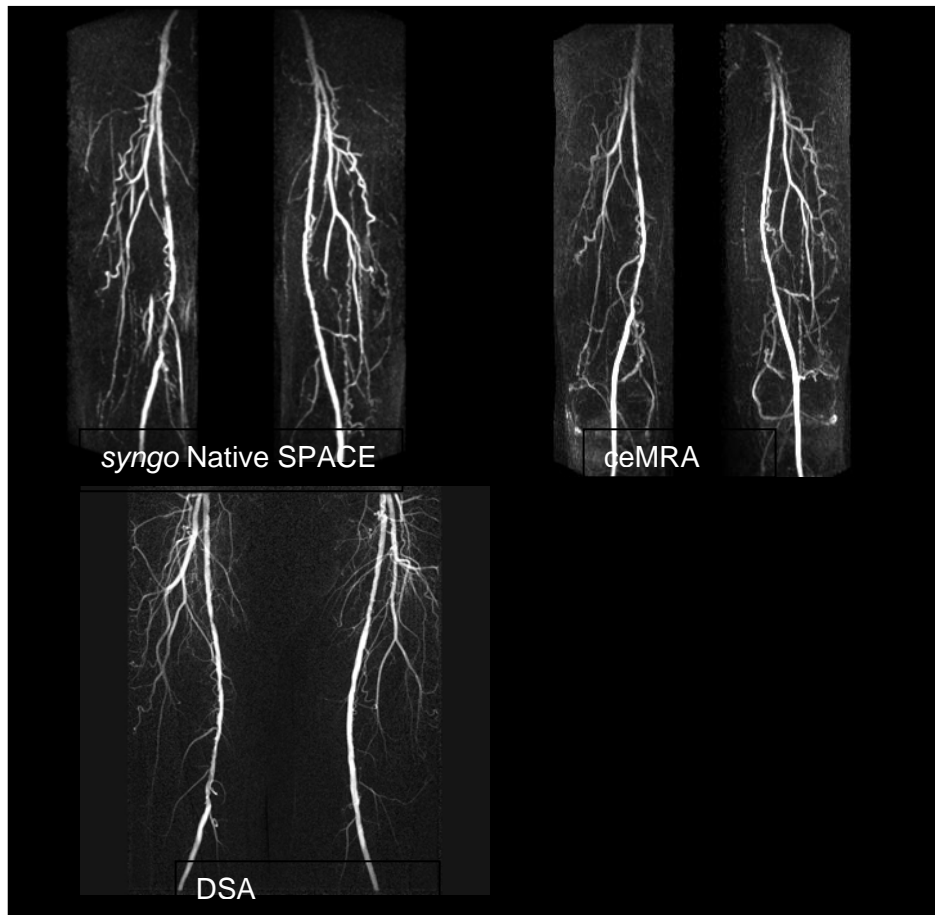


Figure 1: *syngo* Native SPACE (top left), contrast-enhanced MRA (top right) and DSA acquired during the therapeutic procedure demonstrates broad agreement in the severity and location of the significant lesion – there is a focal proximal third and more diffuse distal third stenotic disease of the right superficial femoral artery.



Figure 2: *syngo* Native SPACE (top left) and ceMRA (top right) again are in agreement – DSA acquired at intervention (bottom row). There is three vessel runoff, with a focal stenosis of the middle third of the right anterior tibial artery.

Results and discussion

On the basis of the MR angiogram, the decision was taken to perform right superficial femoral angioplasty with good clinical result.

The DSA study performed at this time correlates well with the MR studies *syngo* Native SPACE provides an alternative method for MR angiography in cases where administration of extrinsic contrast agent is contra-indicated. *syngo* Native SPACE can provide diagnostic information to enable more accurate planning of interventional procedures.

In this case the corresponding contrast-enhanced MRA was also acquired as the patient was part of a research study assessing the performance of this new technique.