

Dual Source CT

Gout imaging with Spiral Dual Energy Scanning

SOMATOM Definition dual energy scanning

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HISTORY

A 37 year-old male was referred for a Dual Source CT for the evaluation of joint deformity. A contrast enhanced MDCT scan of the hand was performed on the SOMATOM Definition using spiral dual energy evaluation.

DIAGNOSIS

After the dual energy scan, a joint deformity was visible on the patient's right index finger due to gout, which turned out to be the main cause for limitation of motion. These uric acid deposits develop mainly in cartilage tissue, tendons, and soft tissues. They usually develop only after a patient has suffered from the disease for many years.

COMMENTS

In the dual energy mode, two x-ray sources can be operated simultaneously at different kV levels. The results are two spiral data sets acquired in a single scan providing diverse information that allows one to differentiate, characterize, isolate, and distinguish the imaged tissue and material.

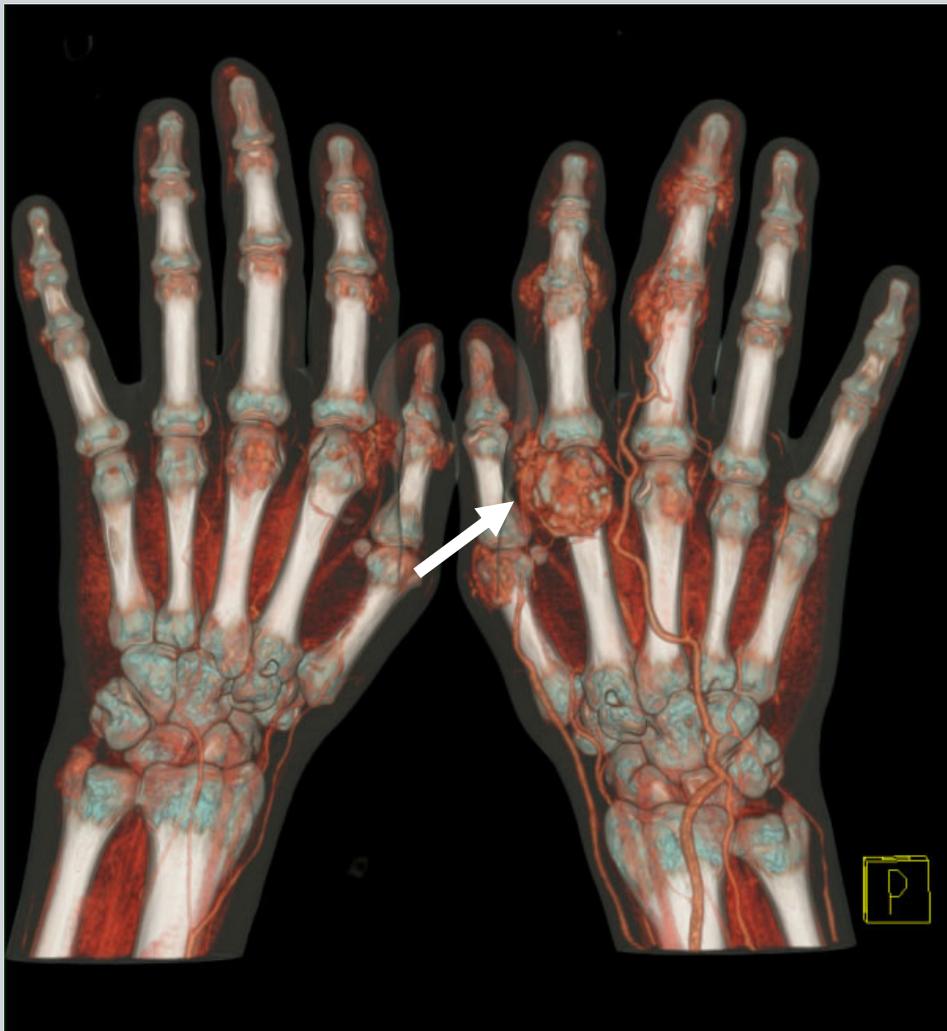


Fig 1:
Excellent
visualization
of gout on
the right
index finger
– made
possible by
spiral dual
energy
scanning.

EXAMINATION PROTOCOL

Scanner	SOMATOM Definition
Scan area	Hand scan
Scan length	255mm
Scan time	19s
Scan direction	Cranio-caudal
kV	140 kV and 80 kV
Effective mAs	70 effmAs / 200 effmAs
Rotation time	1.0 s
Slice collimation	0.6 mm
Reconstructed slice thickness	1.0 mm
Spatial Resolution	0.33 mm
Increment	0.5 mm
CTDIvol	7.2 mGy
Kernel	D30s
Dose Modulation	CARE Dose4D™
Contrast Amount	50 ml
Contrast Flow rate	3 ml/sec
Delay time	7 sec

The information presented in this case study is for illustration only and is not intended to be relied upon by the reader for instruction as to the practice of medicine. Any health care practitioner reading this information is reminded that they must use their own learning, training and expertise in dealing with their individual patients. This material does not substitute for that duty and is not intended by Siemens Medical Systems to be used for any purpose in that regard.

The drugs and doses mentioned herein are consistent with the approval labelling for uses and/or indications of the drug. The treating physician bears the sole responsibility for the diagnosis and treatment of patients, including drugs and doses prescribed in connection with such use. The Operating Instructions must always be strictly followed when operating the CT System. The source for the technical data is the corresponding data sheets. Results may vary.