

Dual Source CT

Liver imaging with Dual Energy

SOMATOM Definition Dual Energy scanning

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HISTORY

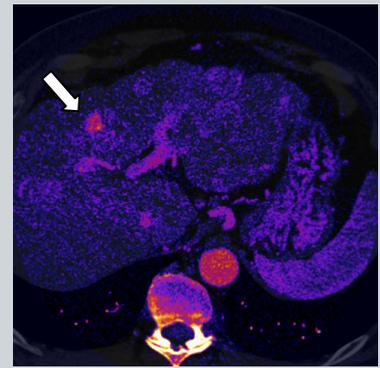
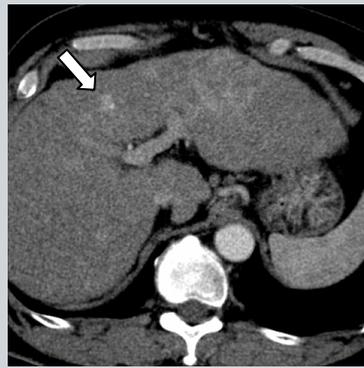
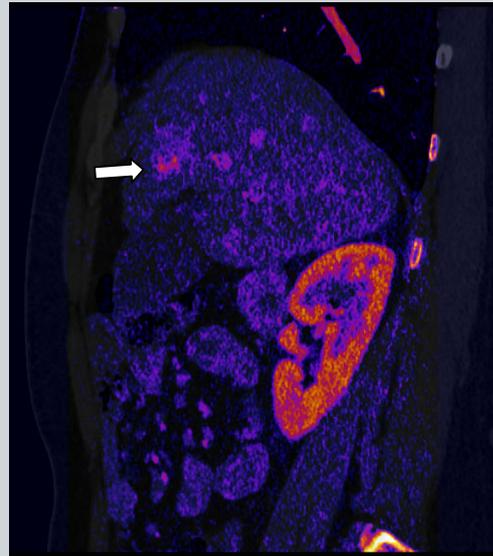
A 55 year-old male was referred to a Dual Source CT follow-up scan after transcatheter arterial chemoembolization (TACE) of his hepatocellular carcinoma 6 years ago. A contrast enhanced dynamic CT scan of the abdomen was performed on the SOMATOM Definition using spiral Dual Energy evaluation.

DIAGNOSIS

The hepatic arterial-dominant phase images revealed numerous hyper-attenuating lesions. From these dual energy images, virtual non contrast images were generated with a colored iodine overlay that could be phased in and out. The lesions, detected in S4 of the liver, showed the same hypo-attenuation in the virtual non-contrast and in the native CT images and the colored iodine overlay allowed a clear analysis of the iodine uptake in the lesions. The patient was diagnosed with multiple HCC recurrence with liver cirrhosis.

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. Enhancement patterns of liver lesions can clearly be visualized with the Dual Energy Liver VNC application.



Dual Energy Virtual Non Contrast application visualizes: non contrast and pure iodine
Non contrast, mixed 50/50 virtual non contrast/iodine and colored iodine display

EXAMINATION PROTOCOL

<i>Scanner</i>	<i>SOMATOM Definition</i>
Scan area	Abdomen
Scan length	268mm
Scan time	10s
Scan direction	Cranio-Caudal
kV	140 / 80 kV
Effective mAs	80 / 345 eff mAs
Rotation time	0.5s
Slice collimation	0.6mm
Reconstructed slice thickness	1mm
Increment	0.5mm
Kernel	D30

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.