

## Quantitative Analysis of Focal Lesions in the Liver in Dual-energy Computed Tomography

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### Abstract

The study aims to quantify the DECT data for hepatocellular carcinoma (HCC), metastases, hemangiomas, and simple cysts. Quantitative assessment of the data of iodine maps (concentration of iodine in the focus, normalized concentration of iodine in the focus on aorta and liver parenchyma) was carried out and evaluation of the virtual spectral curves of the lesions was performed.

Statistical analysis of the results showed that all methods for quantitative assessment of DECT data in liver foci allow to distinguish cyst from hemangioma and from malignant tumor (metastases and HCC nodes). Furthermore, it is possible to distinguish hemangioma from cyst and from malignant tumor (metastases and nodes of hepatocellular cancer). However it is impossible to distinguish the nodes of hepatocellular cancer and metastasis between themselves.

**Key words:** Dual-energy Computed Tomography, Metastasis, Cyst, Hemangioma, Hepatocellular Carcinoma.

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