

Quantitative Liver Capability Analysis Using MR Imaging

Tamada Akirha*

Department of Radiology, University of Freiburg, Germany

Image Article

Quantitative evaluation of liver capability is important not only for observing that function but also for evaluating the liver reserve prior to surgery [1].

Since Indocyanine Green is only removed from distribution by the liver, the Plasma Disappearance Rate has been regarded as an important tool for quantitatively evaluating liver function [2]. However, to our knowledge, there is no established method for the quantitative anatomically based assessment of segmental liver capability (Figure 1).

It has been established that a quantitative liver function test, such as the ICG clearance test, and the Future Remnant Liver Volume are significant predictors of postoperative liver failure and mortality [1,3]. However, because the heterogeneity of the liver function could not be taken into account with volumetry, an accurate assessment of the segmental liver reserve may not be possible [4].

Gadoxetate disodium is a paramagnetic hepatobiliary contrast specialist that has the ability to combine the characteristics of a

hepatocellular contrast agent and extracellular agents. The same transportation frameworks (for instance the Natural Anion Shipping Polypeptides, OATPs) are seen as obligated for take-up of gadoxetate disodium and ICG in hepatocytes. As a result, gadoxetate disodium-improved MR imaging may serve as the foundation for a useful method for quantitatively assessing postoperative liver disappointment, such as ICG clearance, while also allowing for anatomic delineation of hepatic function.

References

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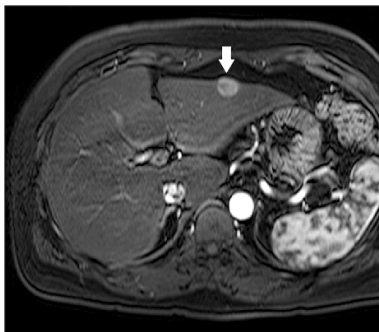


Figure 1: Real-time MRI imaging of Liver.

*Corresponding author: Tamada Akirha, Department of Radiology, University of Freiburg, Germany, E-mail: Tamada_a@yahoo.com

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