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Ultrasound-based techniques for the diagnosis of liver steatosis

Ferraioli G *et al.* US for diagnosis of steatosis.

Giovanna Ferraioli, Livia Beatriz Soares Monteiro

Abstract

Non-alcoholic fatty liver disease (NAFLD) is the leading cause of diffuse liver disease. An

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While **ultrasound-based** transient elastography **techniques** such as Fibroscan[®] measure **liver** stiffness in a defined region (about 5 cm³, right lobe of the **liver**), Magnetic Resonance Elastography (MRE) can be used to predict fibrosis stage effectively in patients with chronic **liver** disease, while producing a wider and more representative map of **liver** stiffness in both 2D and 3D planes.

Hepatic steatosis and fibrosis: Non-invasive assessment

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Noninvasive Diagnosis of Nonalcoholic Fatty Liver Disease ...

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Advanced magnetic resonance imaging is a noninvasive procedure that can accurately diagnose and quantify steatosis, but is expensive. Conventional ultrasound is more accessible but identifies steatosis with low levels of sensitivity, specificity, and quantitative accuracy, and ...

Cited by: 116

Author: Steven C. Lin, Elhamy Heba, Tanya Wolf...

Publish Year: 2015

Non-invasive diagnosis of hepatic steatosis | SpringerLink

<https://link.springer.com/article/10.1007/s12072-016-9772-z> ▾

Oct 25, 2016 · Biomarkers for the detection and quantification of steatosis. Using ultrasound as reference for the diagnosis of steatosis, four scores have been proposed including the fatty liver index (FLI), the hepatic steatosis index (HSI), the lipid accumulation product (LAP) and the index of NASH (ION).

Cited by: 20

Author: Christiane Stern, Laurent Castera

Publish Year: 2017

Noninvasive Diagnosis of Nonalcoholic Fatty Liver Disease ...

[https://www.cghjournal.org/article/S1542-3565\(14\)01721-2/fulltext](https://www.cghjournal.org/article/S1542-3565(14)01721-2/fulltext)

Liver biopsy analysis is the standard method used to diagnose nonalcoholic fatty liver disease (NAFLD). Advanced magnetic resonance imaging is a noninvasive procedure that can accurately



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Hepatic steatosis and fibrosis: Non-invasive assessment

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Non-invasive diagnosis of hepatic steatosis | SpringerLink

<https://link.springer.com/article/10.1007/s12072-016-9772-z> ▾

Oct 25, 2016 · Abstract Non-invasive diagnosis and quantification of hepatic steatosis rely on two different but complementary approaches: **biomarkers** or **imaging techniques**, either ultrasound-based such as liver ultrasonography and controlled **attenuation parameter (CAP)**, or **computed tomography (CT)** and **magnetic resonance imaging (MRI)**.

Cited by: 20

Author: Christiane Stern, Laurent Castera

Publish Year: 2017

Diagnosis and management of non-alcoholic fatty liver ...

<https://pmj.bmj.com/content/95/1124/314> ▾

Jun 01, 2019 · **Acoustic radiation force impulse (ARFI)** is another ultrasound-based imaging technique which relies on wave propagation speed to assess tissue stiffness and therefore the degree of **liver fibrosis**. The technique uses a standard ultrasound probe and relies on no external compression, therefore reducing operator dependency.

Cited by: 1

Author: Erica Jennison, Janisha Patel, Eleonora Sc...

Publish Year: 2019

Noninvasive Diagnosis of Nonalcoholic Fatty Liver Disease ...

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4454635>

A new **quantitative ultrasound (QUS)** technique can identify **steatosis** in animal models. We assessed the accuracy of **QUS** in the **diagnosis** and **quantification hepatic steatosis**, comparing findings with those from **MRI proton density fat fraction (MRI-PDFF)** analysis as a reference.

Cited by: 116

Author: Steven C. Lin, Elhamy Heba, Tanya Wolfson...