64 year old male undergoing MR eval of a pancreatic lesion with an incidental finding

Ryan Joyce, MD

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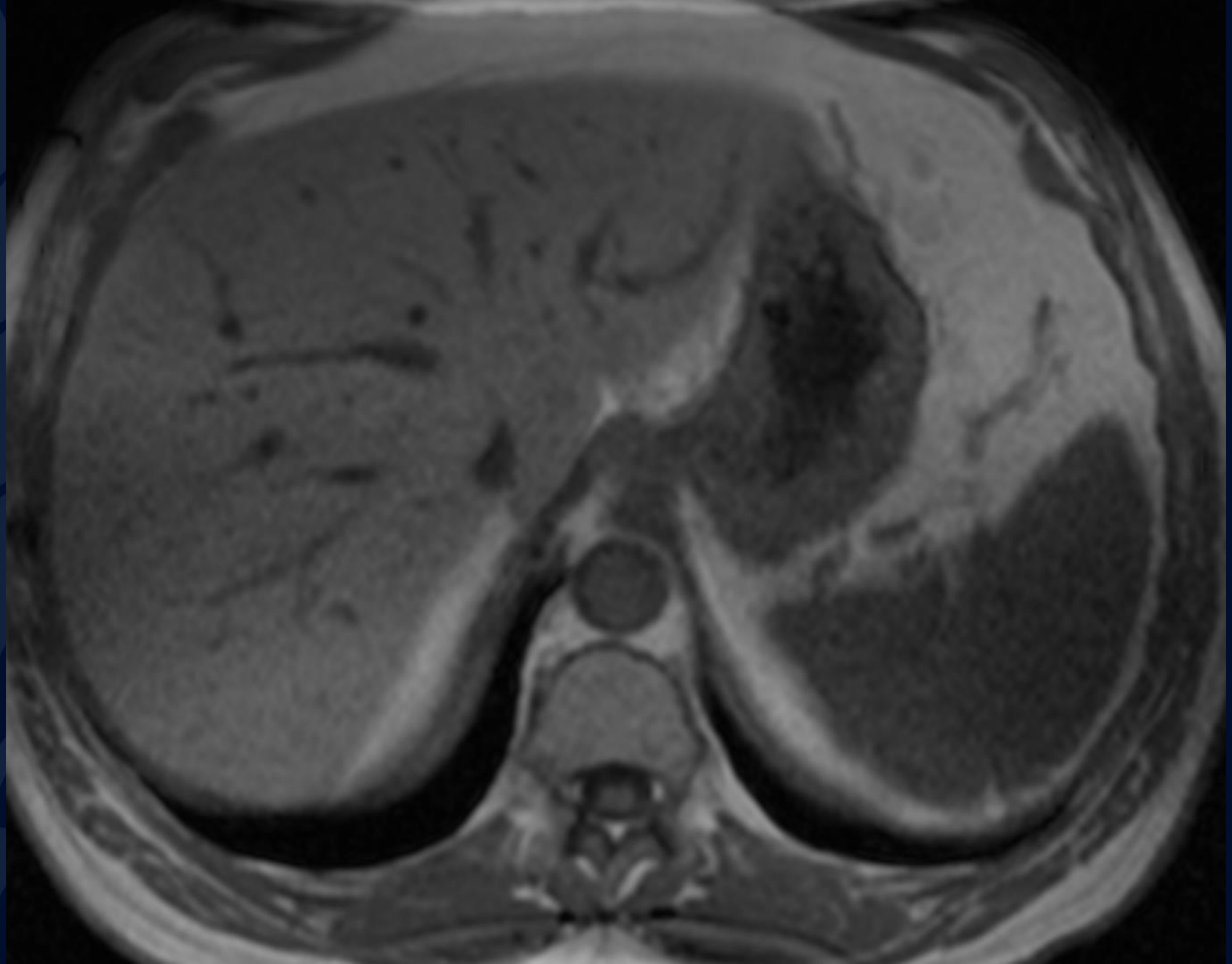

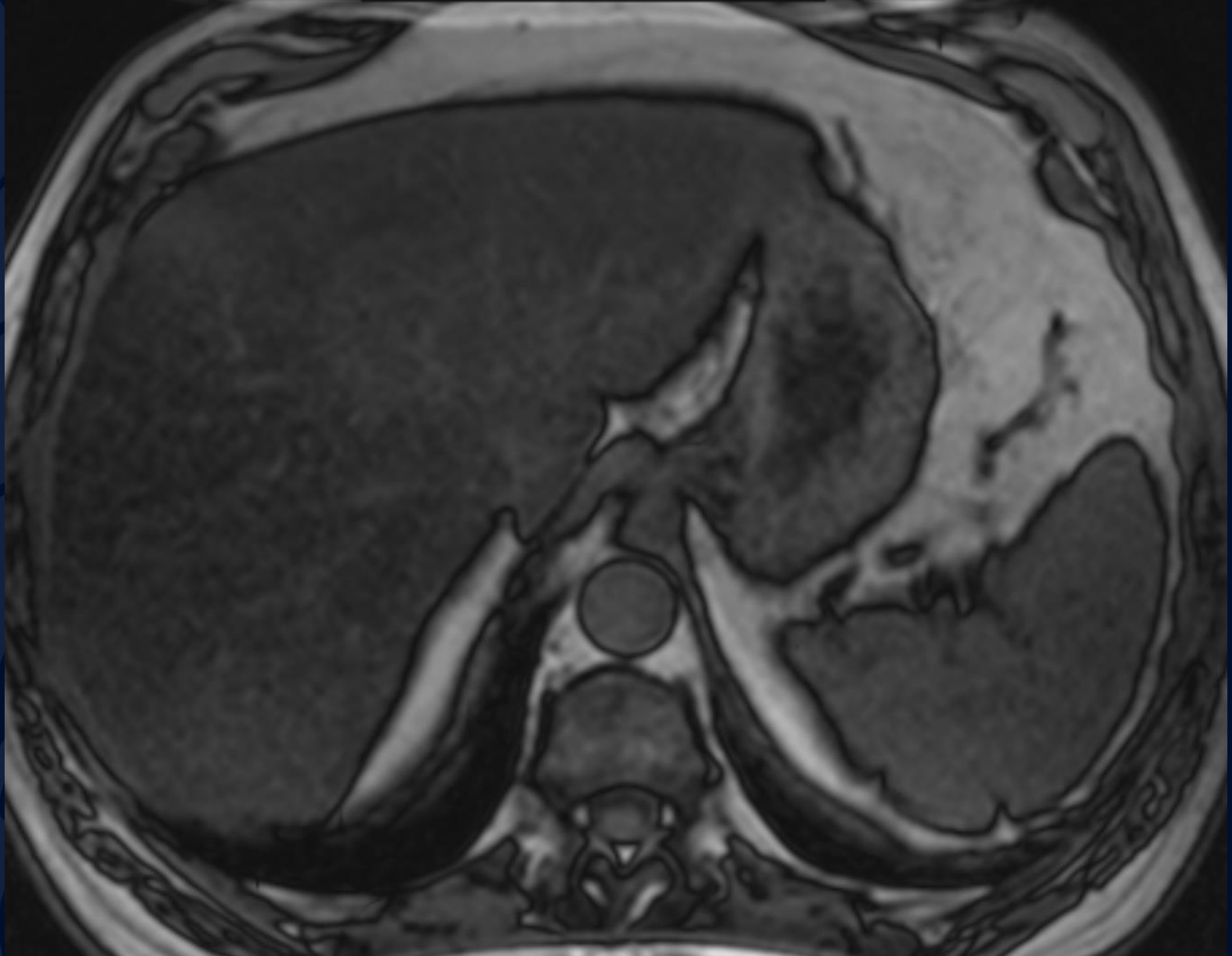

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Hepatic steatosis

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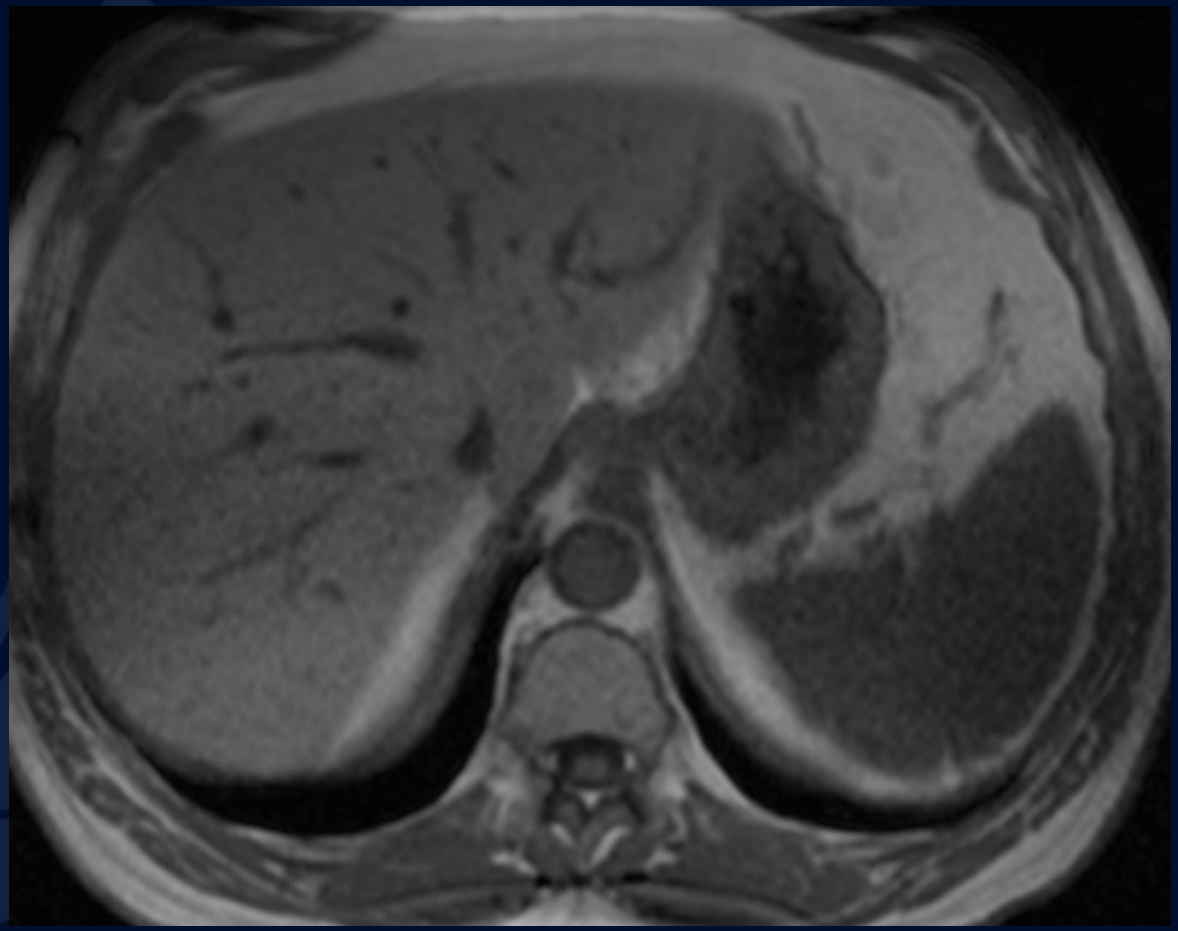

T1 in-phase GRE

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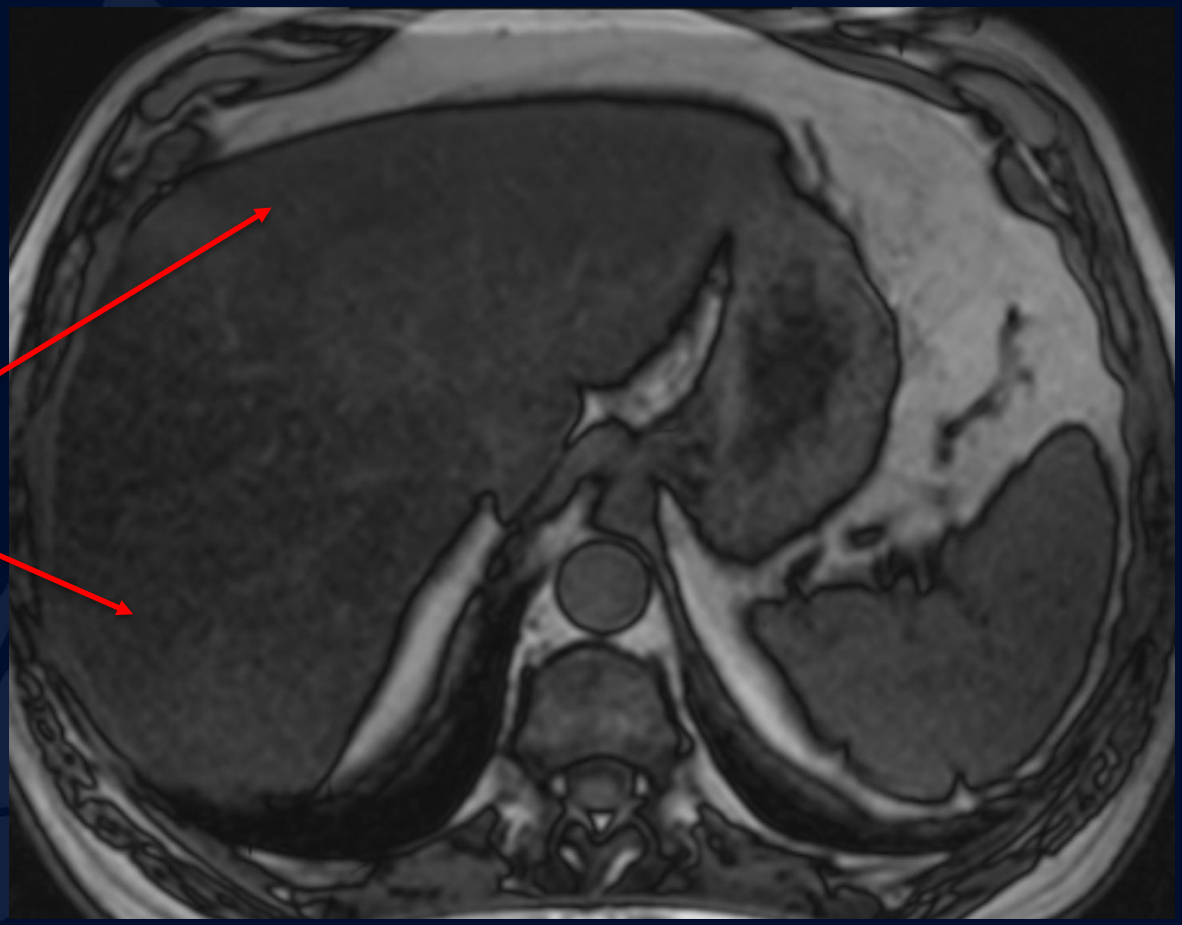
Diffuse liver signal dropout



T1 opposed-phase GRE

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Hepatic steatosis

Accumulation of triglycerides within hepatocytes

- May be focal, multifocal, or diffuse (with or without areas of sparing).
- Liver maintains normal shape and surface contour.
- On imaging:
  - **US:** increased parenchymal echogenicity (compare to kidney), decreased conspicuity of portal vein walls, blurring of hepatic vein margins, increased beam attenuation.
  - **CT:** decreased hepatic density (best evaluated with non-contrast CT) at least 10 HU less than spleen or absolute attenuation < 40 HU.
  - **MR:** increased signal of liver relative to spleen (subjective). More definitively, look for hepatic signal dropout on opposed-phase T1 imaging compared to in-phase T1 imaging.
  - All modalities: normal vessels course through the abnormal area!

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Hepatic steatosis

Most commonly, is related to metabolic derangement (DM, obesity, hyperlipidemia).

- Other causes include, but are not limited to:
  - Alcohol abuse
  - Protein malnutrition
  - Tetracycline use
  - Steroids
  - Cystic fibrosis
  - Reye syndrome

Patients are usually asymptomatic with abnormal LFTs (helps distinguish from steatohepatitis).

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References

1. Lawrence DA et al: Detection of hepatic steatosis on contrast-enhanced CT images: diagnostic accuracy of identification of areas of presumed focal fatty sparing. AJR Am J Roentgenol. 199(1):44-7, 2012
2. Statdx.com

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