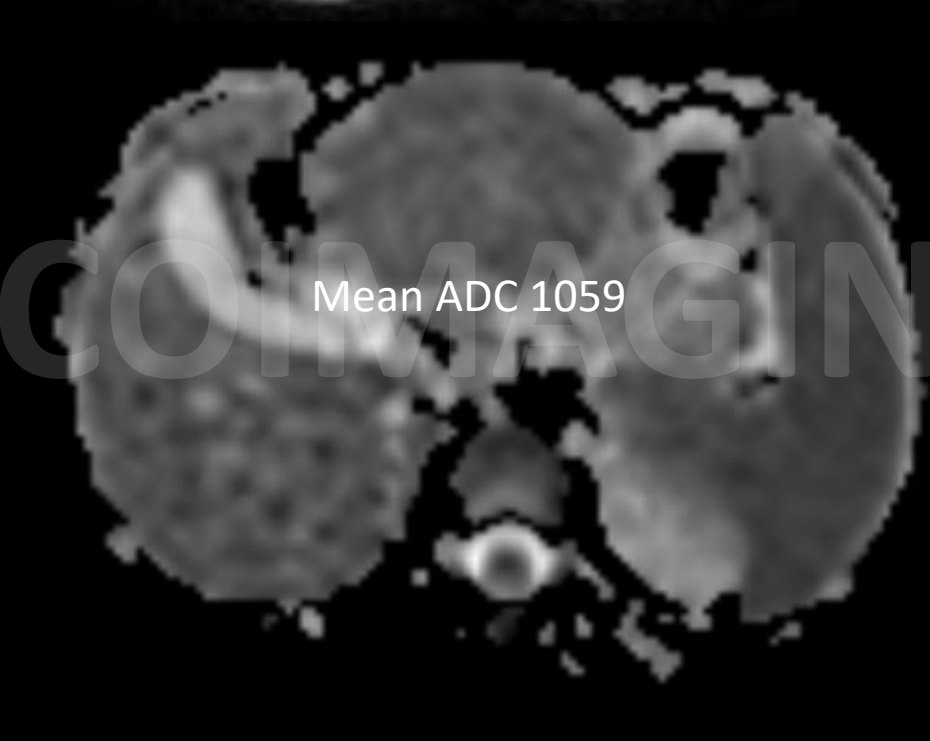
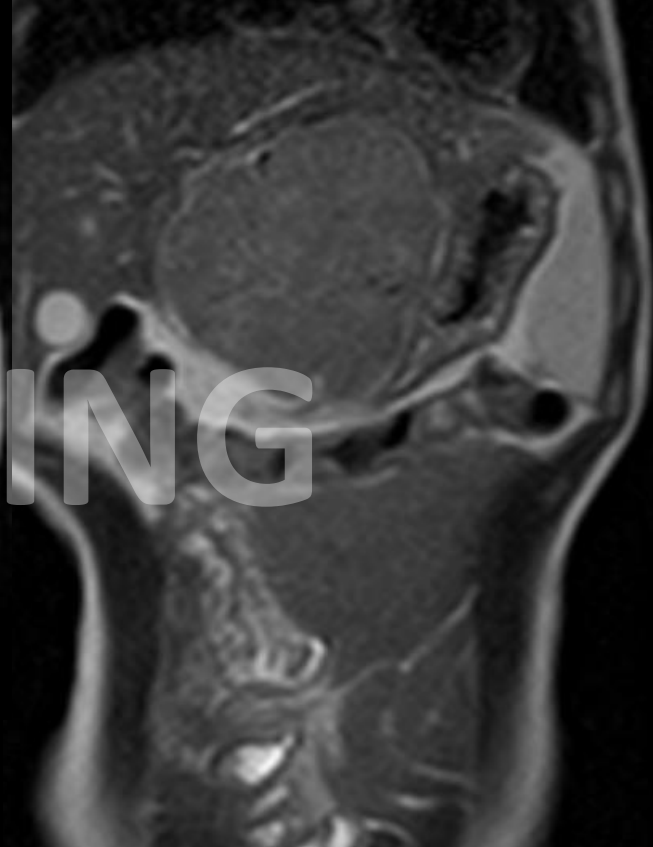
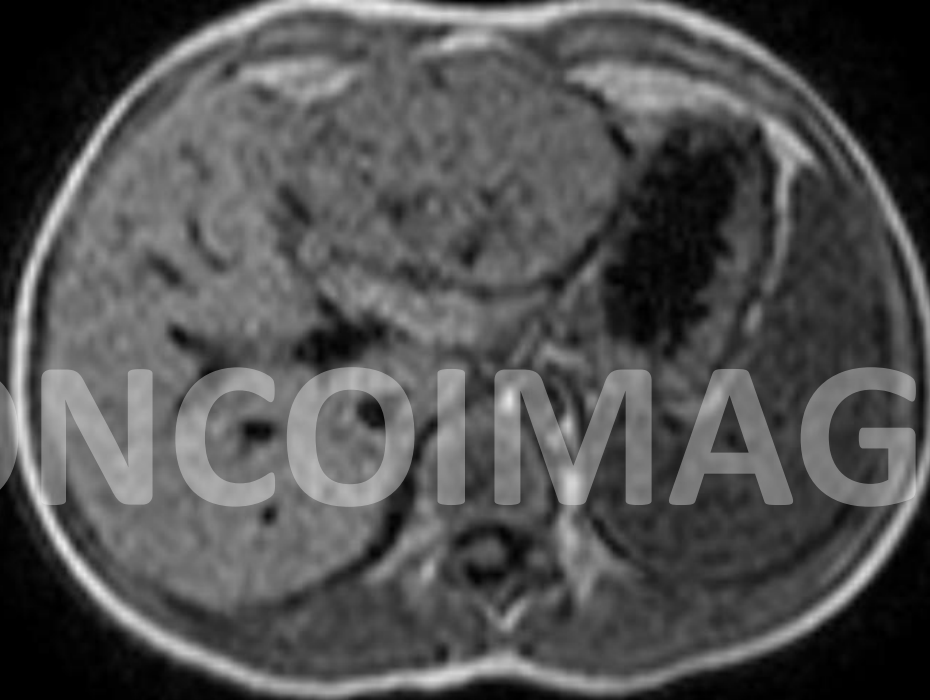




2025

KARNATAKA RADIOLOGY EDUCATION PROGRAM



KREP ONCOIMAGING

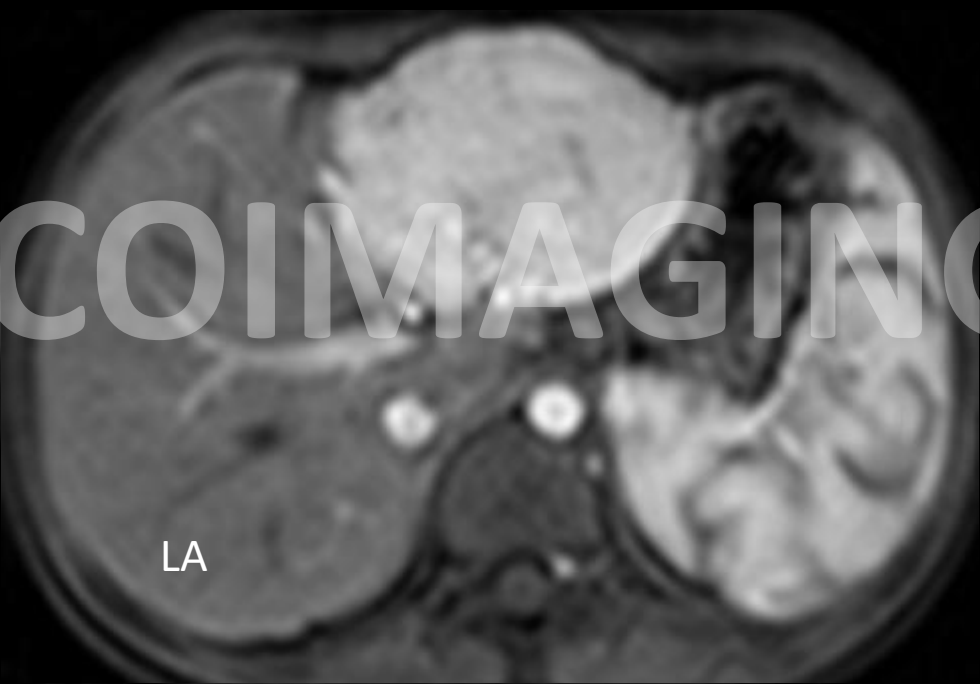
KREP ONCOIMAGING

Mean ADC 1059



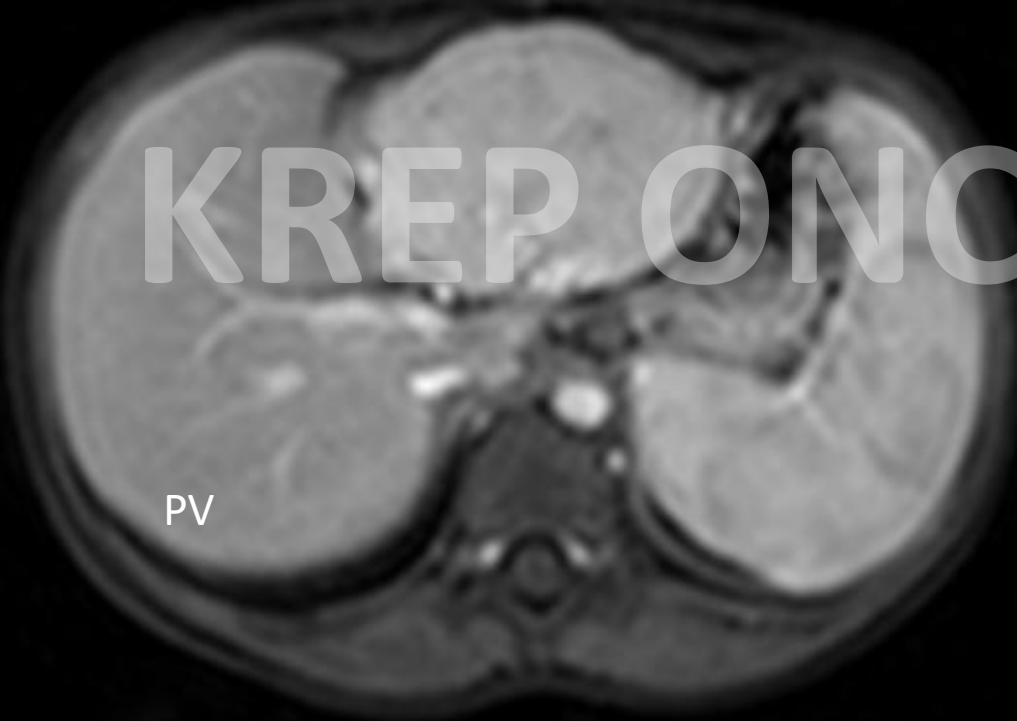
KREP ONCOIMAGING

This is a grayscale axial MRI scan of the liver. The liver parenchyma is visible with its characteristic branching vascular structures. The text 'KREP ONCOIMAGING' is overlaid in a large, semi-transparent white font across the center of the image.



LA

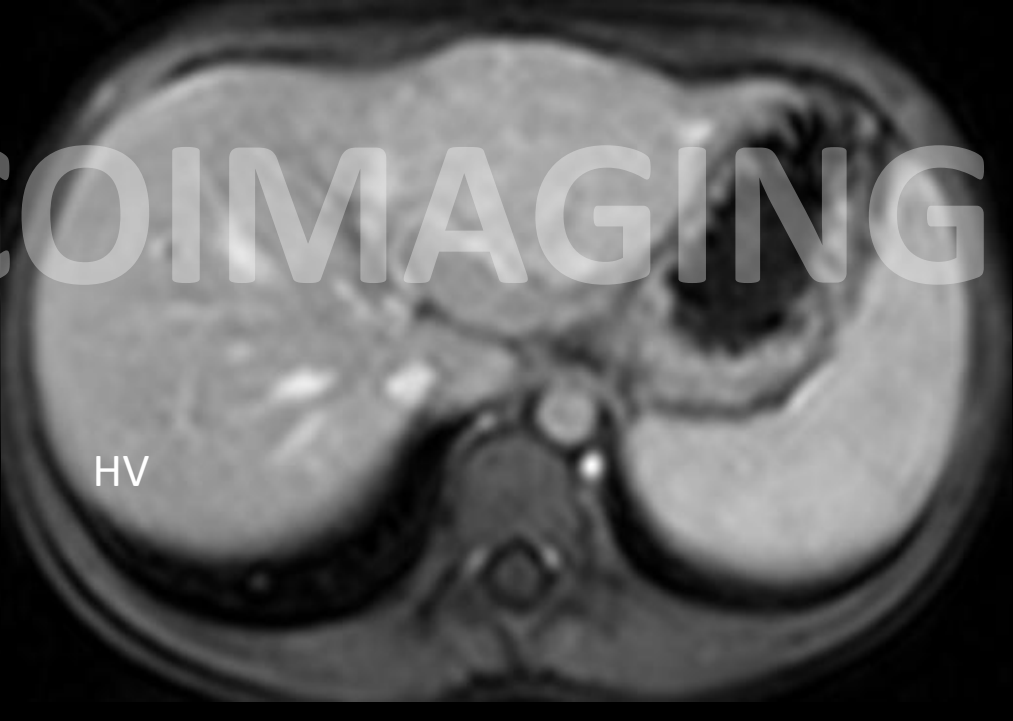
This is a grayscale axial MRI scan of the liver, showing a different phase or slice than the top-left image. The text 'LA' is visible in the lower-left quadrant of the liver area. The text 'KREP ONCOIMAGING' is also overlaid in a large, semi-transparent white font across the center of the image.



KREP ONCOIMAGING

This is a grayscale axial MRI scan of the liver. The text 'KREP ONCOIMAGING' is overlaid in a large, semi-transparent white font across the center of the image.

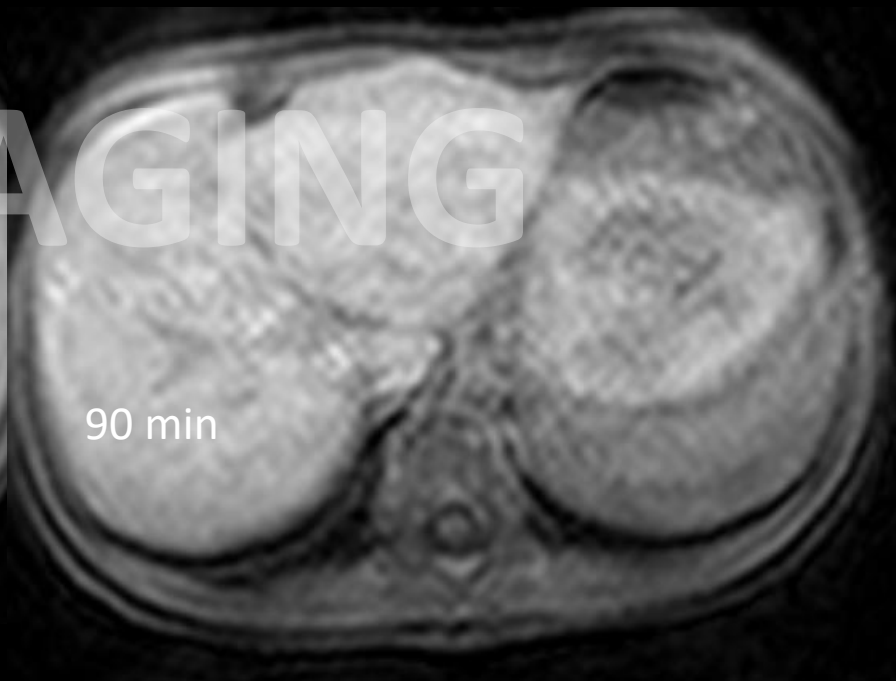
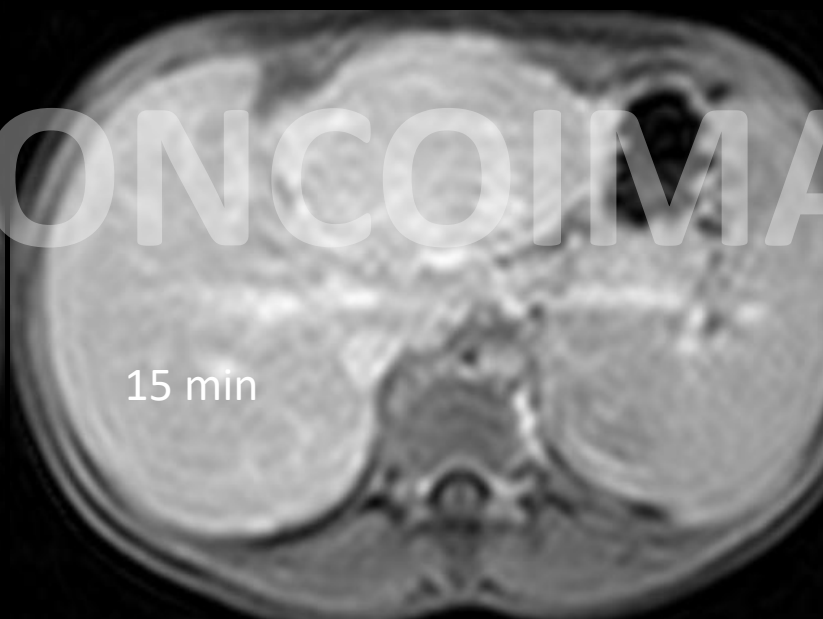
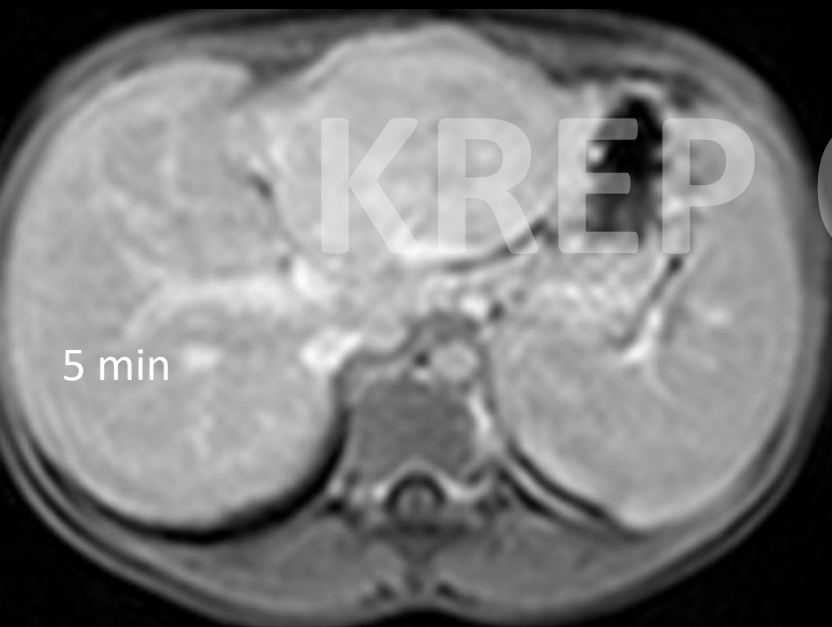
PV



HV

This is a grayscale axial MRI scan of the liver. The text 'HV' is visible in the lower-left quadrant of the liver area. The text 'KREP ONCOIMAGING' is also overlaid in a large, semi-transparent white font across the center of the image.

KREP ONCOIMAGING



- A well-defined lesion with lobulated margins of approximate size 4.7 x 6.4 x 6.4 cm (AP x TR x CC) is seen epicentered in the left lobe of the liver (lateral segments).
- It appears T1 isointense, T2/SPAIR iso to mildly hyperintense (compared to liver), showing subtle diffusion restriction (mean ADC 1050). No evidence of any significant scar or calcification. The lesion shows a small extrahepatic component in the inferior aspect.
- Enhancement characteristics:
 - Arterial phase: hyper enhancing.
 - Portal phase: hyperintense in comparison to the adjacent normal liver parenchyma.
 - Venous phase: isointense to the liver parenchyma.
 - Hepatobiliary phase: isointense to the liver parenchyma, suggesting uptake of the **hepatobiliary contrast (Multihance)**.
 - The lesion was being supplied by the left hepatic artery. Both right and left hepatic arteries were from hepatic artery proper.
- Features are suggestive of focal nodular hyperplasia.

Hepatobiliary phase enhancement (Eovist 20 min, Multihance 60- 90 min)

- FNH – Functioning hepatocyte – uptake as normal liver.
- HCC – Non functioning – Hypointense. Well differentiated HCC can show.
- Hepatic adenoma – Pleomorphic hepatocytes, usually hypointense. If beta catenin mutated then they may be iso to mildly hyperintense in comparison to adjacent parenchyma. Hemorrhage can be there.

REPORT

Left lateral segmentectomy – FNH.

1. Pathology & Background:

- **Benign, non-neoplastic** hepatocellular lesion caused by **localized hyperplastic response to an arterial malformation**.
- Occurs predominantly in **women (20–50 years)** and is usually **asymptomatic**.
- **No malignant potential** → **no treatment** required unless diagnostic uncertainty exists.

2. Typical Location & Morphology:

- Solitary (80%), well-circumscribed **but non-encapsulated** lesion.
- Often located in **right hepatic lobe**.
- **Central stellate scar** present in ~60–70% (more visible on MRI than CT).

3. CT Imaging Characteristics:

- **Arterial phase: Homogeneous intense hyperenhancement**, except for the central scar which remains hypoenhancing.
- **Portal/Delayed phase: Lesion becomes isoattenuating to liver; scar enhances late** (fibrotic delayed enhancement).
- **No washout** → key differentiator from **Hepatocellular Carcinoma (HCC)**.

4. MRI Features (Best Characterization):

- **T1: Iso- or slightly hypointense**.
- **T2: Iso- to mildly hyperintense; central scar is T2 hyperintense**.
- **Post-contrast: Rapid, uniform arterial enhancement; delayed scar enhancement**.
- **Hepatobiliary phase (Eovist/Gd-EOB-DTPA): FNH is iso- or hyperintense** (contains functioning hepatocytes) → **hallmark feature**.

5. Contrast-Enhanced Ultrasound (CEUS):

- **Rapid centrifugal enhancement** in arterial phase.
- **Sustained iso-enhancement in late phase** (unlike HCC which shows late washout).

6. Differentiation from Key Mimics:

Feature	FNH	Hepatic Adenoma	HCC
Capsule	None	May have	Present/variable
Central Scar	T2 bright, late enhancement	Rare, not classic	Variable
HBP (Eovist) uptake	Iso/Hyperintense	Hypointense	Hypointense
Malignant potential	None	Yes (especially β -catenin)	Yes

7. Associated Conditions:

- Sometimes seen with **oral contraceptive use**, but unlike adenoma, **not hormone-driven**.
- May coexist in patients with **vascular disorders** (e.g., congenital absence of portal vein).

8. Management & Reporting:

- If **typical imaging features** are present → **confidence diagnosis** → **no biopsy** and **no follow-up** needed.
- Report should emphasize:
 - **Arterial hyperenhancement,**
 - **No washout,**
 - **Hepatobiliary phase iso/hyperintensity,**
 - **Presence of central scar** if seen.

Contributors

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