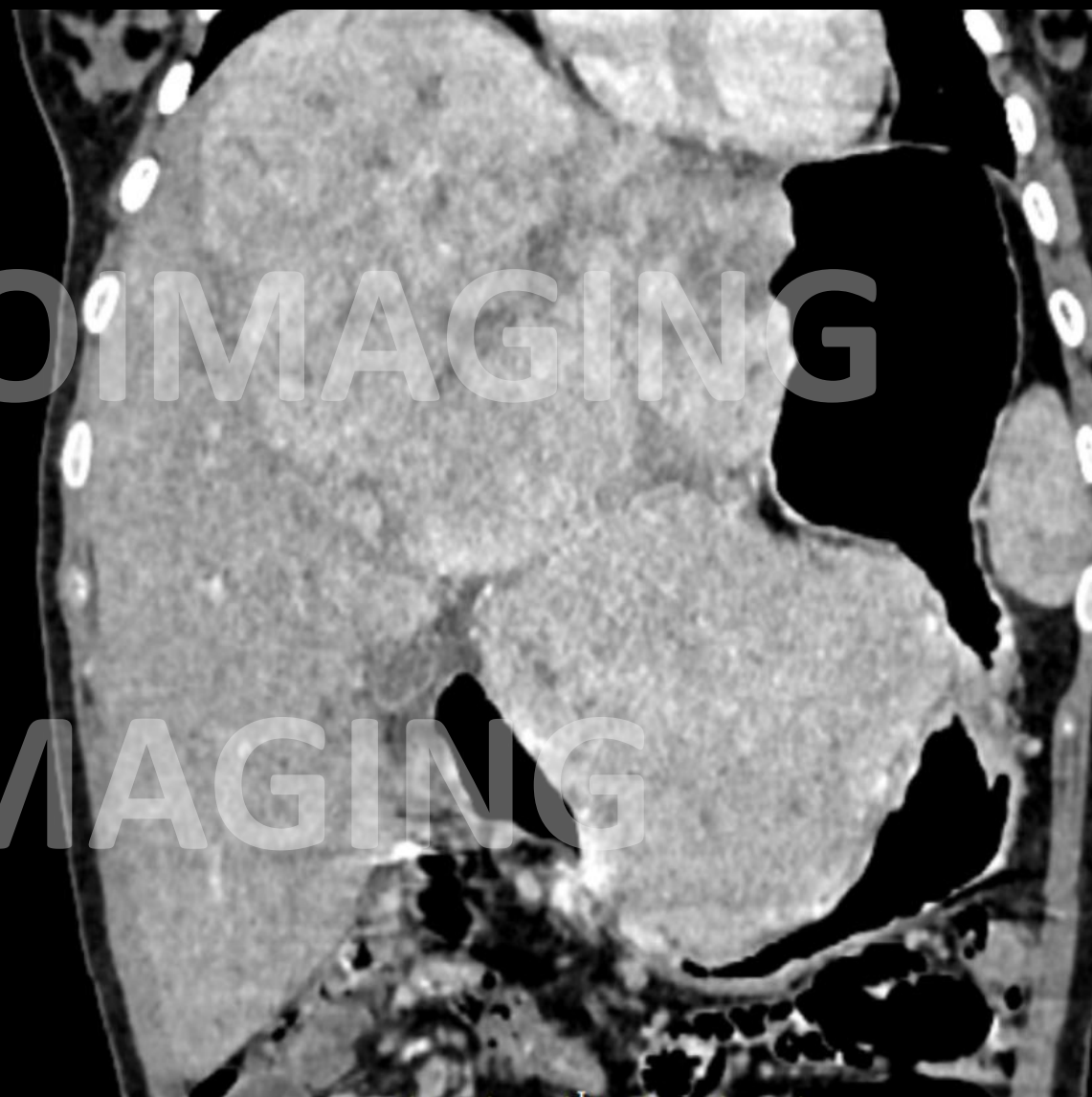




2025

KARNATAKA RADIOLOGY EDUCATION PROGRAM





- Liver: enlarged in size, measuring 29 cm in craniocaudal dimension.
 - A lobulated, relatively circumscribed, heterogeneous lesion of approximate size 10.9 x 15.3 x 14.6 cm (AP x TR x CC) is seen in the liver, involving nearly the entire left lobe
 - Enhancement characteristics:
 - Arterial phase: patchy areas of arterial phase enhancement (early arterial).
 - Portal phase: hyperenhancing compared to the liver parenchyma.
 - Venous phase: nearly isoenhancing to the liver parenchyma.
 - Delayed phase: hypoenhancing/ washout compared to the liver parenchyma.
 - Multiple non-enhancing areas are seen within.
 - No obvious central scar or calcification.
 - Vascular supply and relations: Arterial feeders were identified from left hepatic artery, arising from proper hepatic artery; as well as another feeder from branch of right hepatic artery. Normal hepatic arterial variant anatomy was noted.
- Features are of concern for hepatocellular carcinoma. Based on age, fibrolamellar variant may be considered.

- A similar morphology lesion is seen in gastrohepatic region measuring approximately 10.5 x 12.4 x 11.3 cm (AP x TR x CC) in size.
- The lesion is supplied by the branches from the common hepatic artery.
- The relations of the lesion are as follows:
 - Anteriorly, abutting the anterior abdominal wall at places, without obvious evidence of infiltration.
 - Posteriorly, showing loss of fat planes with the body of the pancreas, with the MPD being prominent in the distal body and tail region.
 - There is compression of the main portal vein and the spleno-portal confluence.
 - To the left, abutting the body of the stomach.
 - To the right, abutting the small bowel loops.
- Few enlarged nodes are noted along the gastroepiploic vessels.
- Rest of peritoneum was normal. Ovaries were normal.
- This could be a peritoneal deposit with few gastroepiloic lymph nodes.
- The features suggest a malignant pathology considering peritoneal lesion, nodes.
- FNH is not considered as a DD for this case.
- Enhancement pattern does not fit for lymphoma.
- The possibility of GIST was excluded in view of AGE, normal appearing stomach wall and compressed but maintained fat planes.
- Other malignancies occurring in this age (sarcoma, variant of hepatoblastoma, angiosarcoma) are unlikely due to purely solid nature, lack of cystic areas and enhancement pattern.

USG guided biopsy – Fibrolamellar HCC.

1. Distinct Clinical Profile:

- Occurs in **adolescents and young adults** with **no underlying cirrhosis** and typically **normal AFP**.
- Not associated with **HBV/HCV, alcohol, or metabolic liver disease**.

2. Pathologic/Molecular Signature:

- Tumor cells separated by **dense lamellar collagen bands**.
- Characteristic **DNAJB1-PRKACA fusion** → highly specific and confirms diagnosis.

3. CT Imaging Features:

- **Large, well-circumscribed heterogeneous mass**, often in **left lobe**.
- **Central stellate scar** common and may **calcify** (seen in ~50%).
- **Arterial phase hyperenhancement** with **progressive/delayed enhancement of the fibrous scar**.

4. MRI Characteristics:

- **T1:** Hypointense tumor and **very hypointense scar**.
- **T2:** Tumor mildly hyperintense, but **scar is T2 hypointense** (important — opposite of FNH).
- **Hepatobiliary phase (Eovist): Hypointense** (no functioning hepatocytes), helping differentiate from FNH.

5. Key Differentiator vs FNH:

Feature	Fibrolamellar HCC	FNH
Scar signal on T2	Dark	Bright
HBP signal	Hypointense	Iso-/Hyperintense
Calcifications	Common	Uncommon
AFP	Usually normal	Normal

6. Nodal and Metastatic Behavior:

- **Regional lymph node enlargement is common** (unlike classic HCC).
- **Hematogenous metastases** to lung, bone, and peritoneum may occur.

7. Treatment Strategy:

- **Surgical resection** is the treatment of choice; best outcomes when disease localized.
- **Transplantation less effective**; systemic therapies have **limited response**, but **immunotherapy** emerging.

8. What to Clearly Report:

- **Segmental location, vascular involvement, nodal status, and extrahepatic spread.**
- Presence and characteristics of **central scar** and **HBP signal** to support diagnosis.

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