



Infiltrative Hepatocellular Carcinoma: What Radiologists Need to Know¹

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Abbreviations: AFP = α -fetoprotein, HCC = hepatocellular carcinoma, LI-RADS = Liver Imaging Reporting and Data System, OPTN = Organ Procurement and Transplantation Network, UNOS = United Network for Organ Sharing

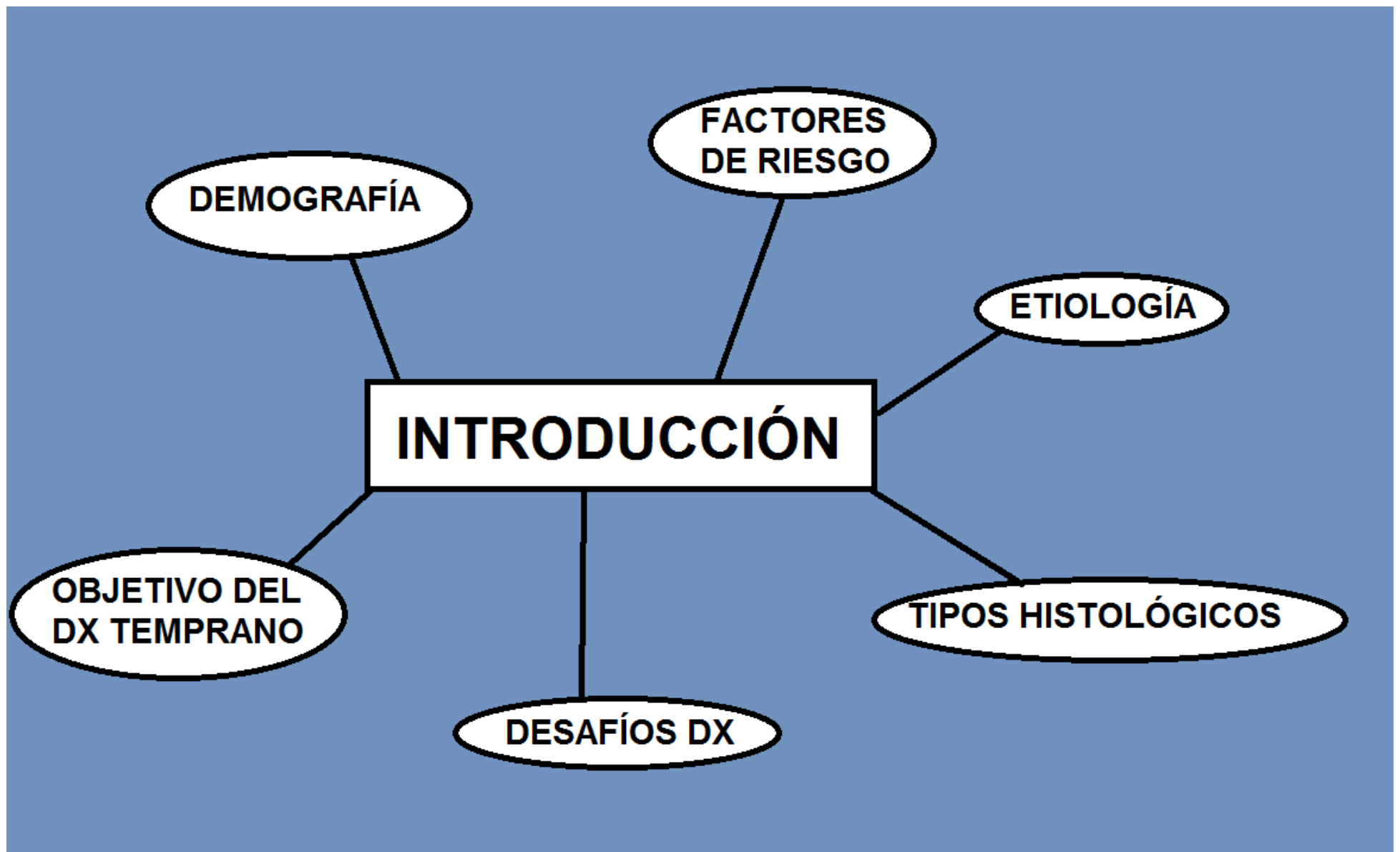
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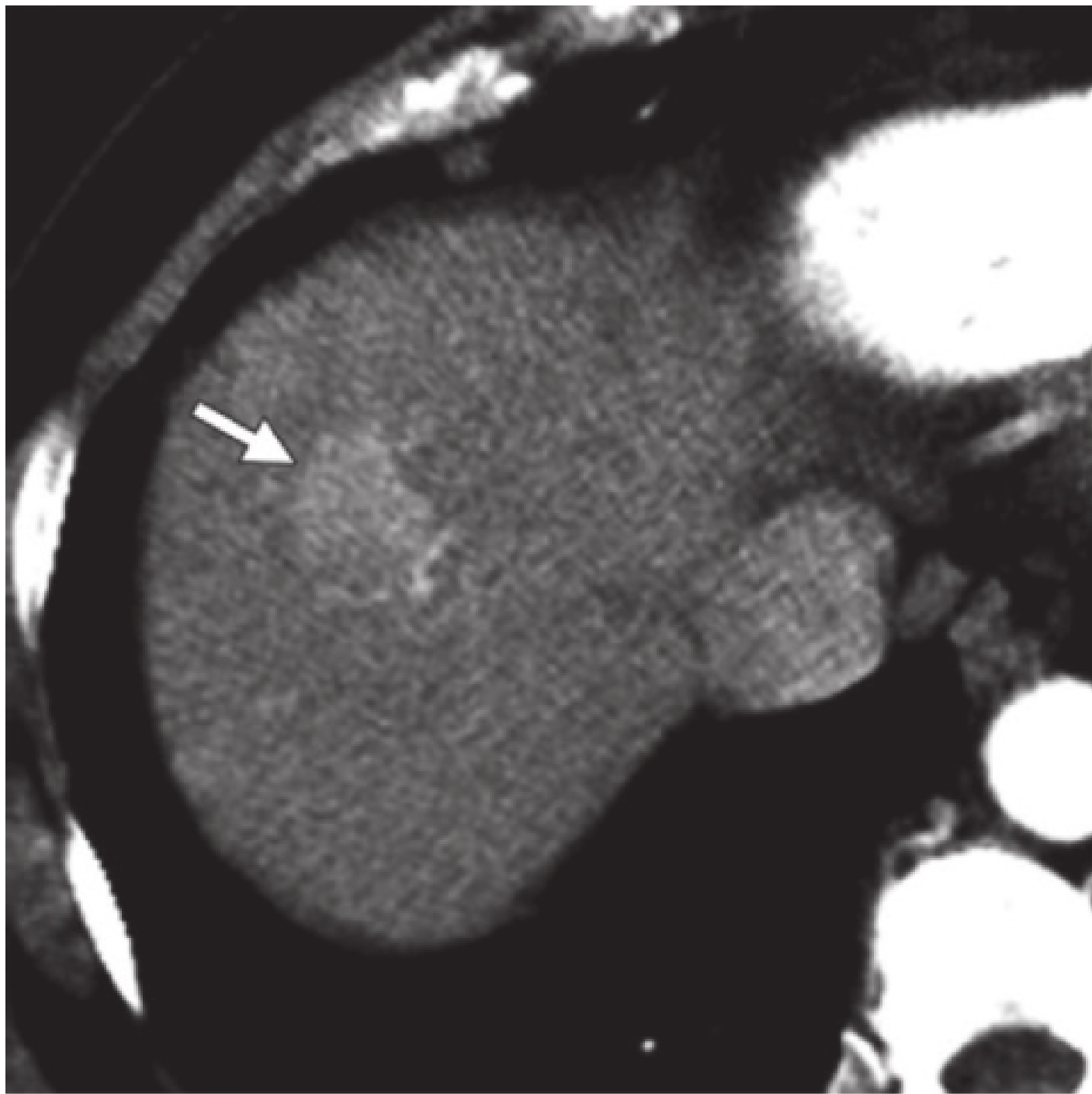
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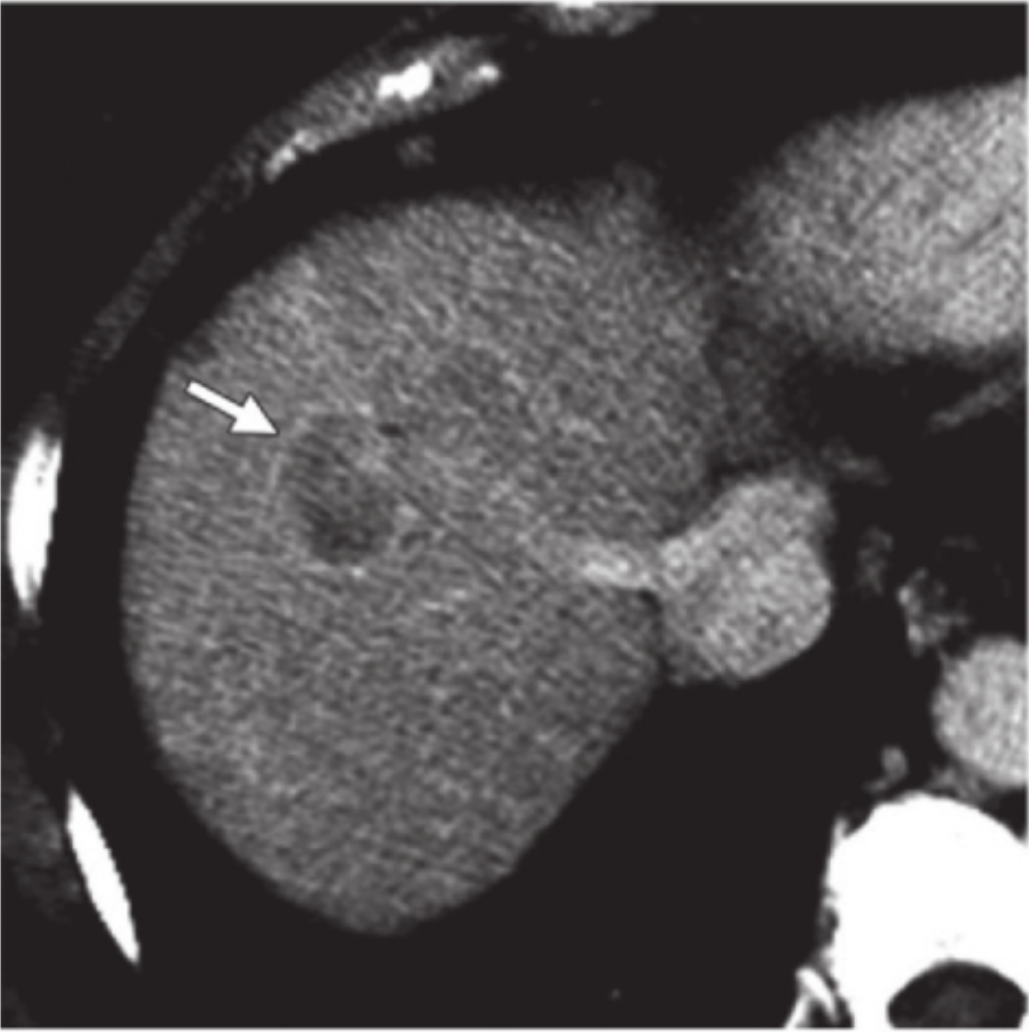
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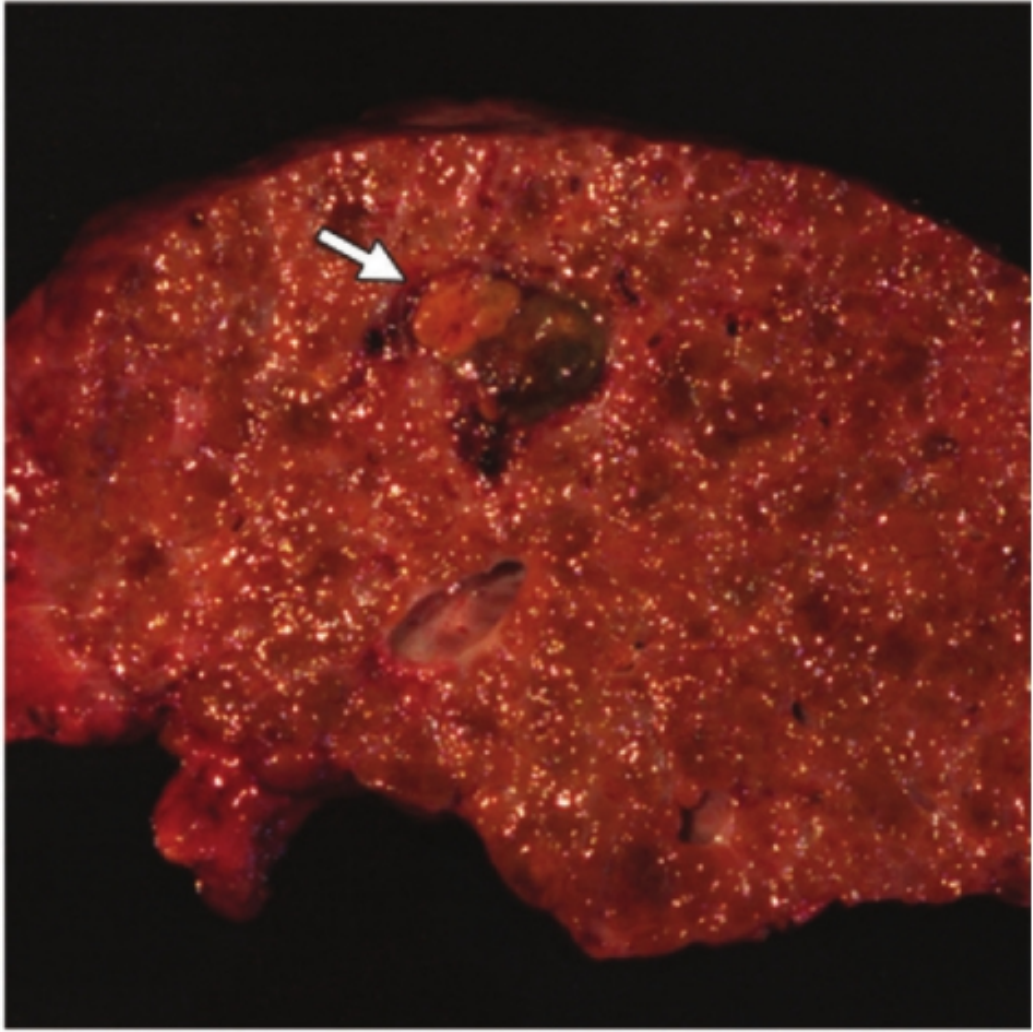


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Figure 1.

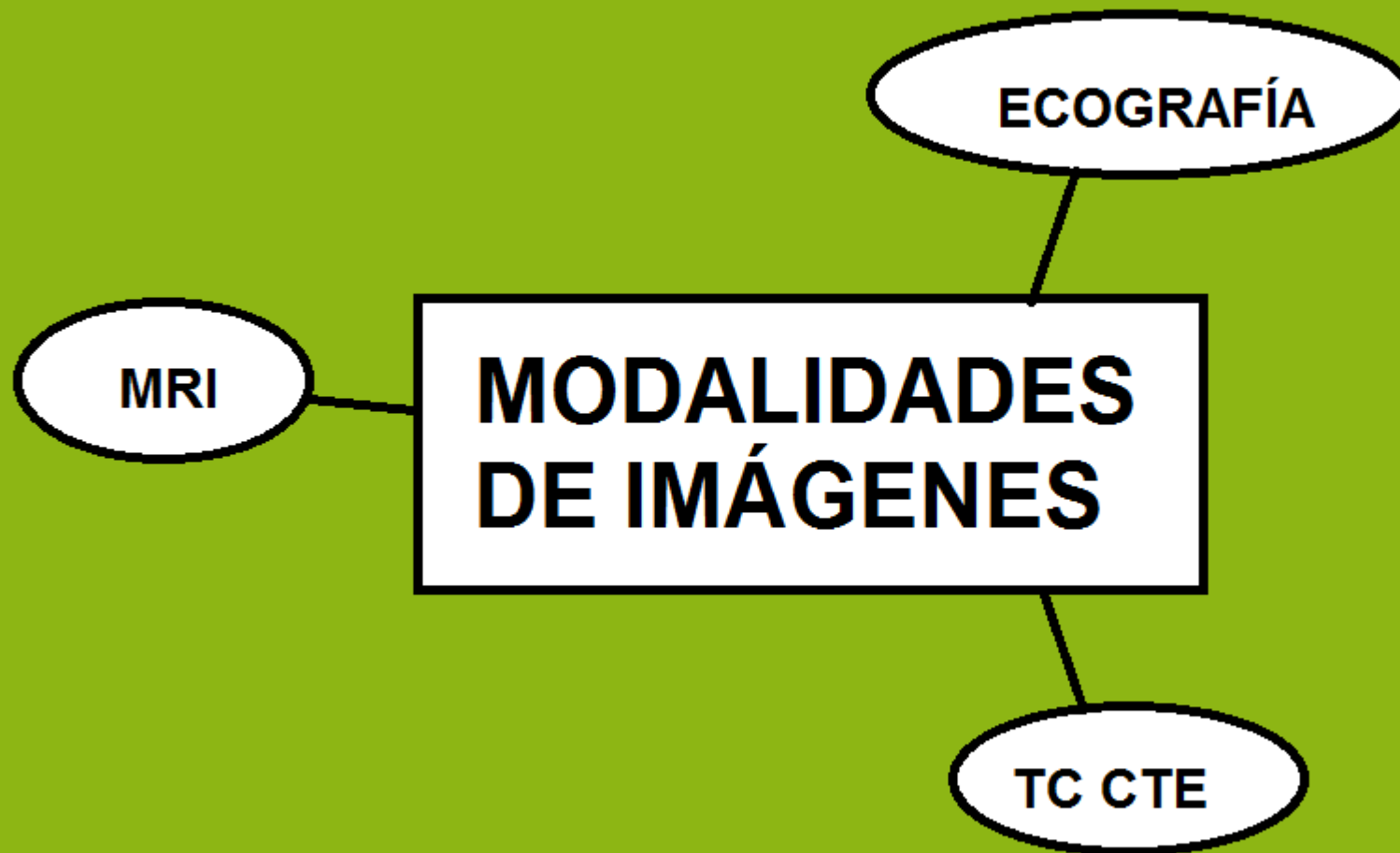


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Figure 1.

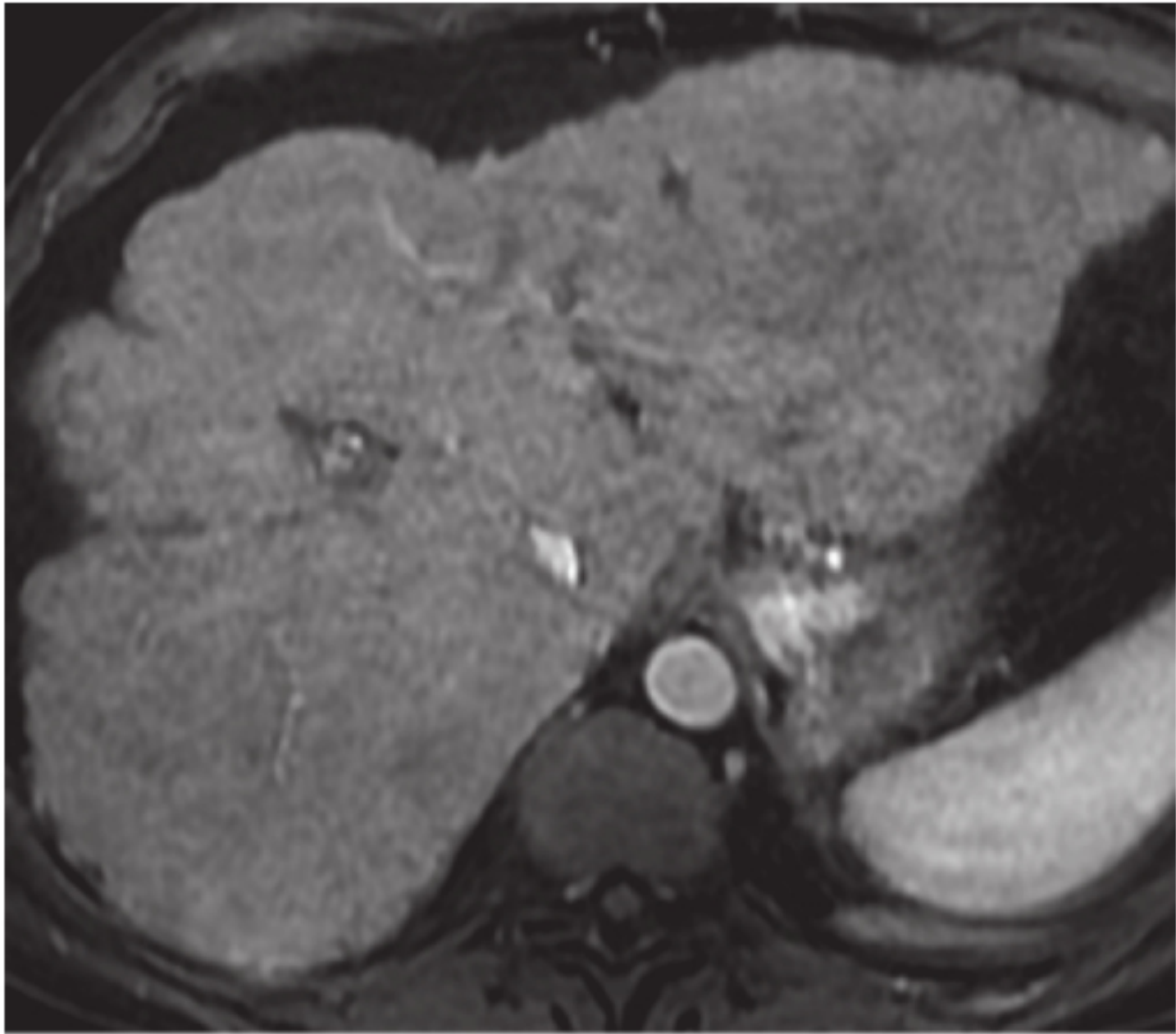


**TIPOS
HISTOLÓGICOS**

**CARACTERÍSTICAS
HISTOPATOLÓGICAS**

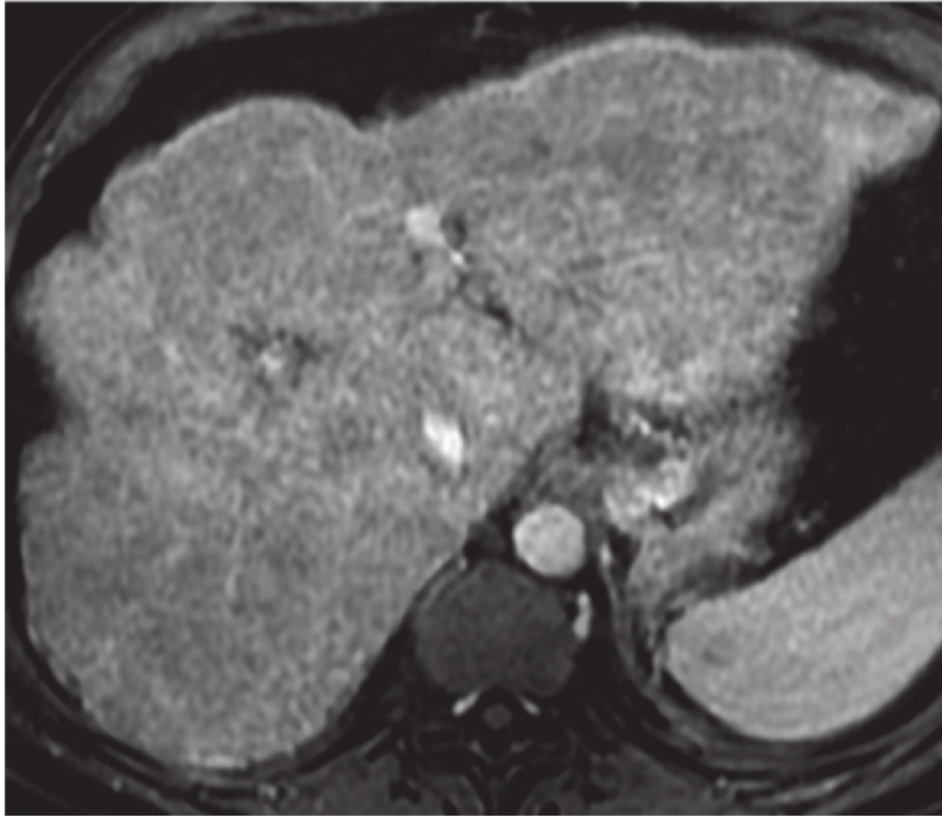
**CONTROVERSIA
DE ORIGEN**

**CARACTERÍSTICAS
DESTACADAS**

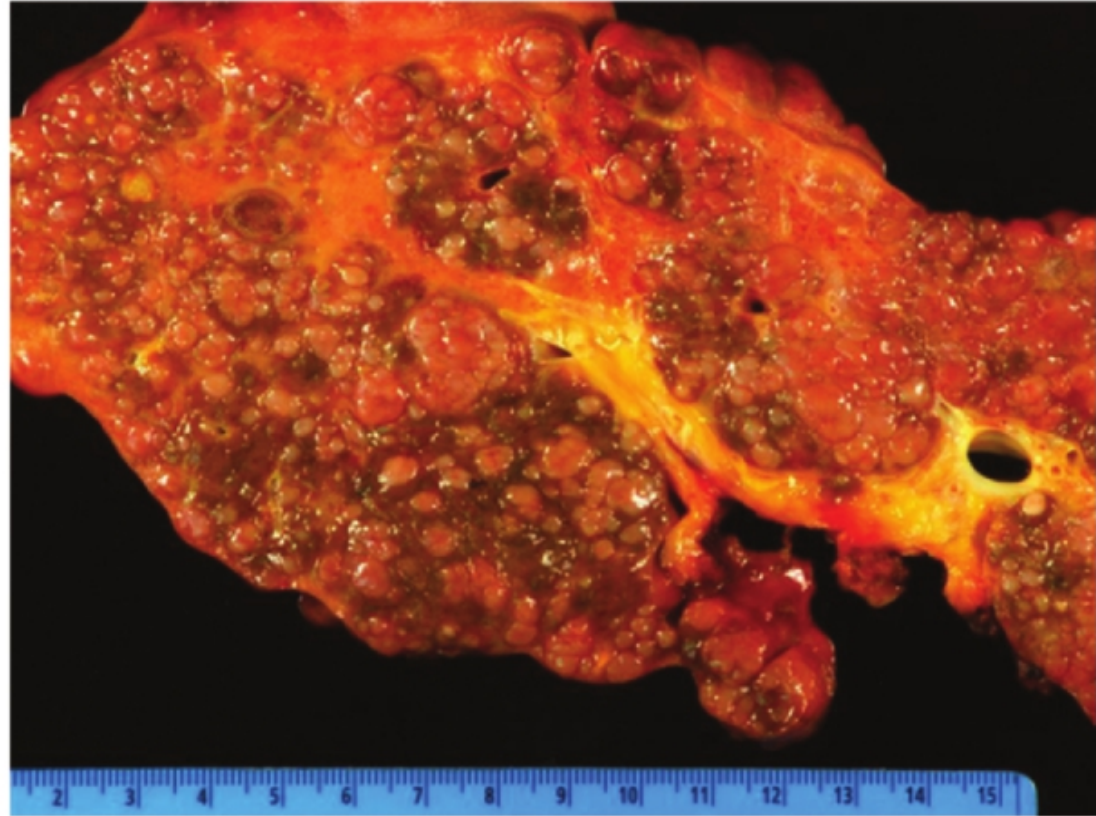


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Figure 2.

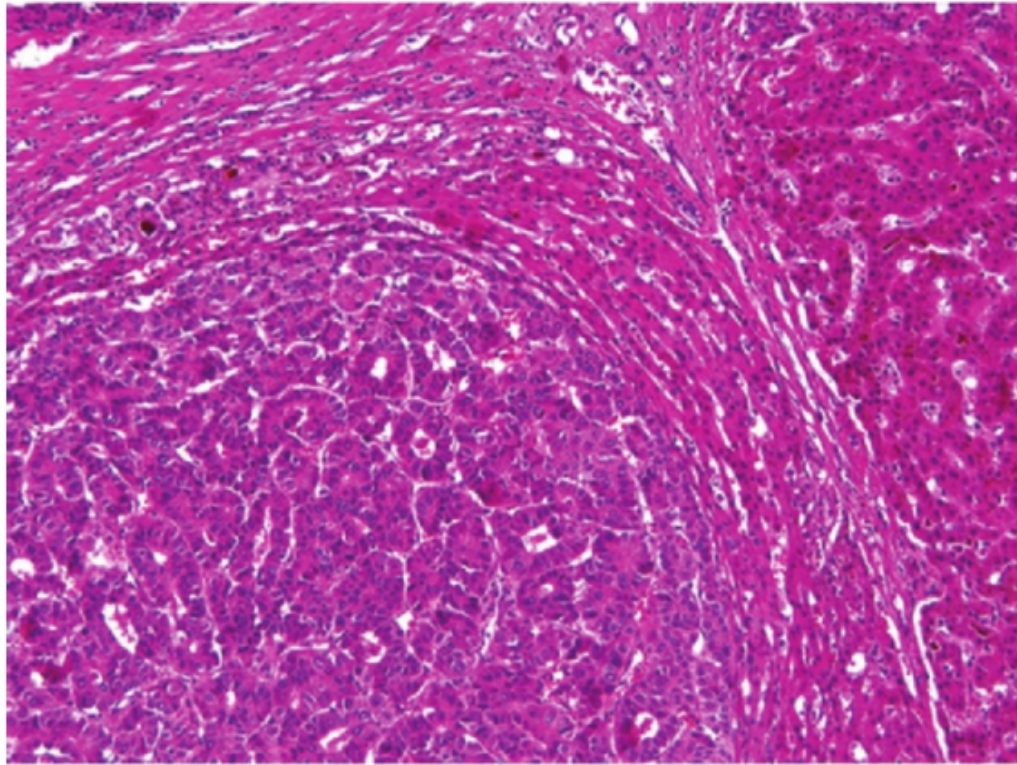


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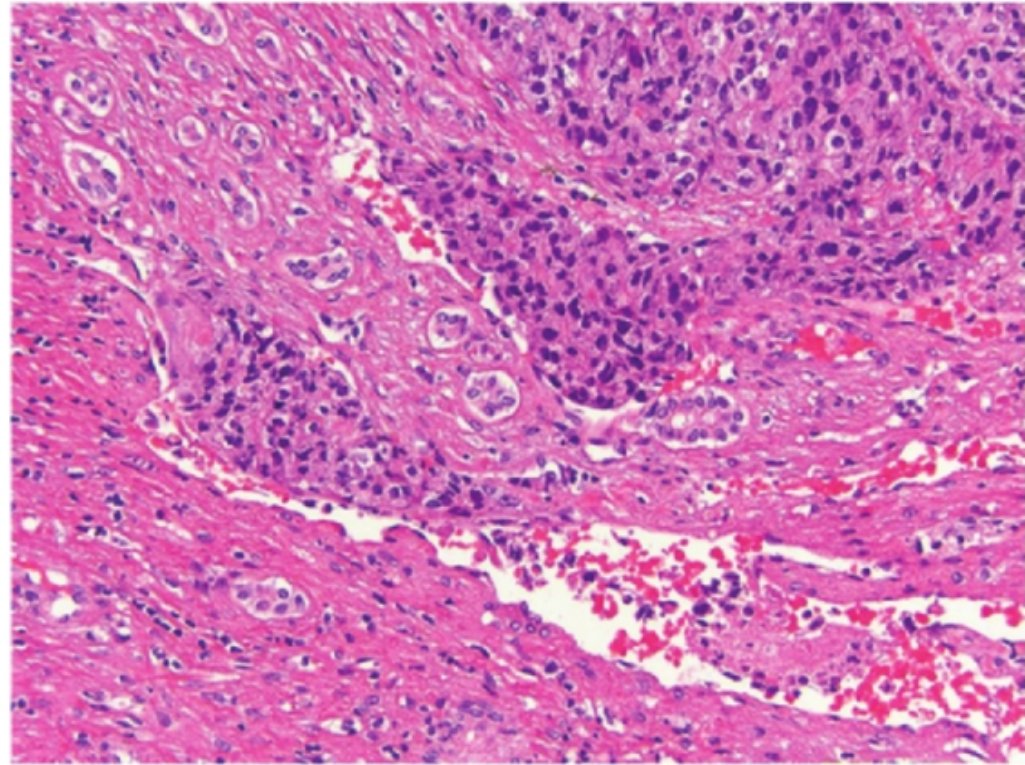


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Figure 2.



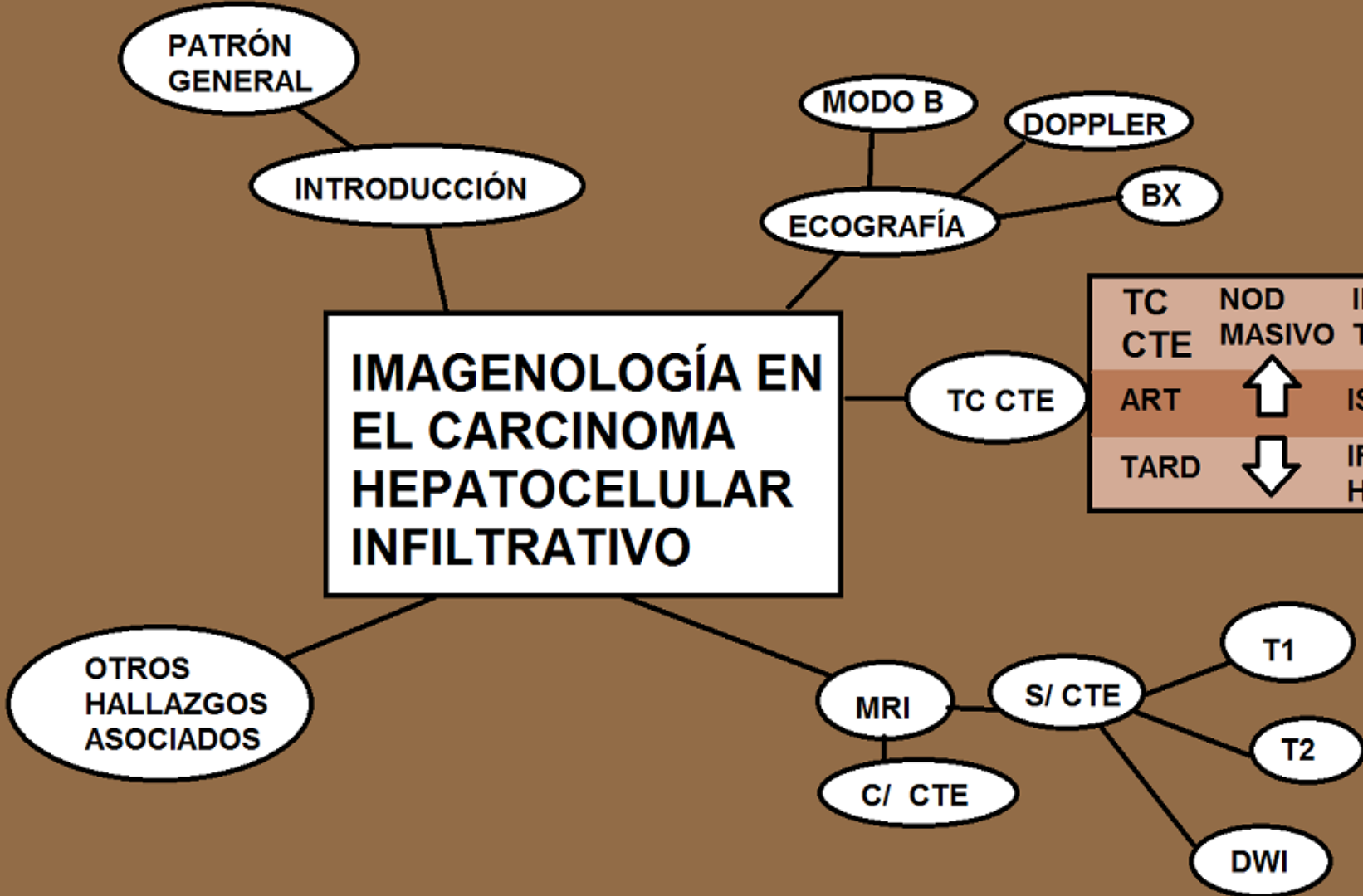
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e.

Figure 2.

IMAGENOLOGÍA EN EL CARCINOMA HEPATOCELULAR INFILTRATIVO



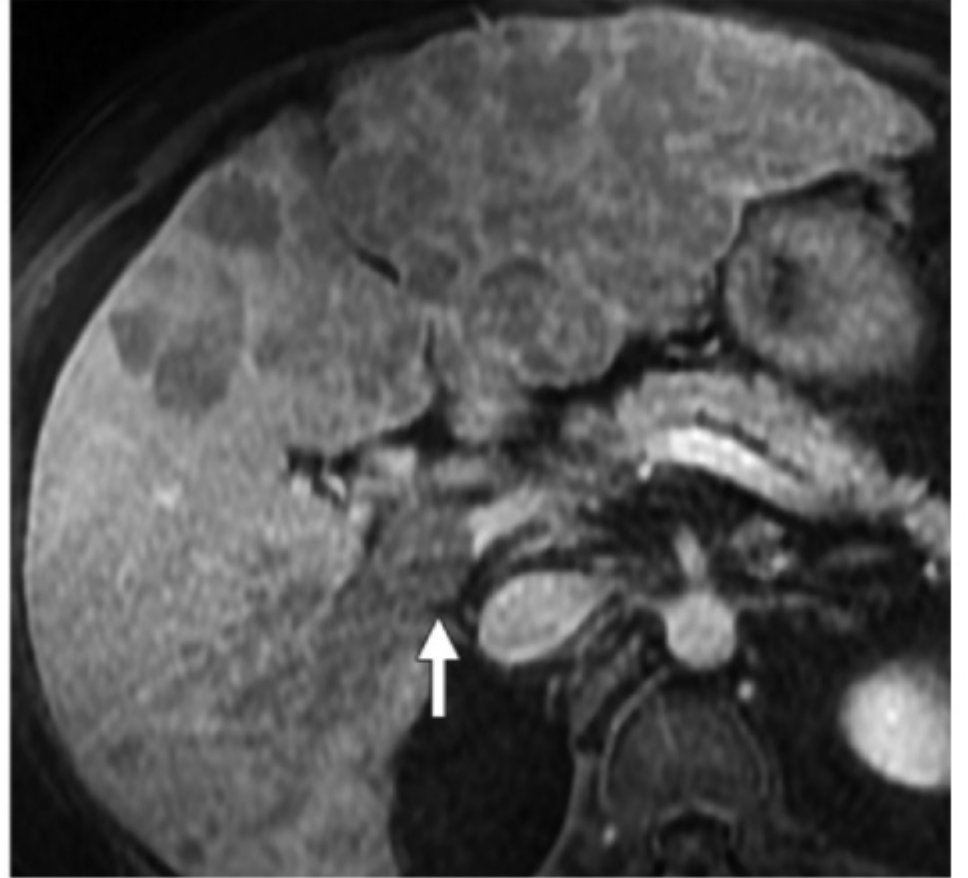
TC	NOD MASIVO	INFIL-TRATIVO
CTE		
ART	↑	ISO / ↓
TARD	↓	IRREG HETEROG

Table 1: Advantages and Pitfalls of Various Modalities for Imaging of Infiltrative HCC

Imaging Modality	Advantages	Pitfalls and Limitations
US		
Gray scale	Guidance for biopsy	Tumor and underlying cirrhosis often difficult to distinguish
Color and spectral Doppler	Detection of portal vein thrombosis	Tumor and underlying cirrhosis often difficult to distinguish
Contrast-enhanced CT		
Multiphasic acquisitions after contrast enhancement	Detection helped by presence of washout appearance in the tumor; identification of enhancing tumoral thrombus	Pattern often indistinguishable from fibrosis and nodularity seen in cirrhosis; minimal heterogeneous contrast enhancement during arterial phase
MR imaging		
T2 weighted and diffusion weighted	Increased visibility compared with dynamic study	Nonspecific appearance
Dynamic study after gadolinium chelate injection	Detection helped by presence of washout appearance in the tumor	Minimal heterogeneous contrast enhancement during arterial phase
Hepatobiliary phase (after injection of hepatospecific gadolinium-based contrast material)	Detection and assessment of tumor burden helped by hypointensity	Nonspecific appearance



a.

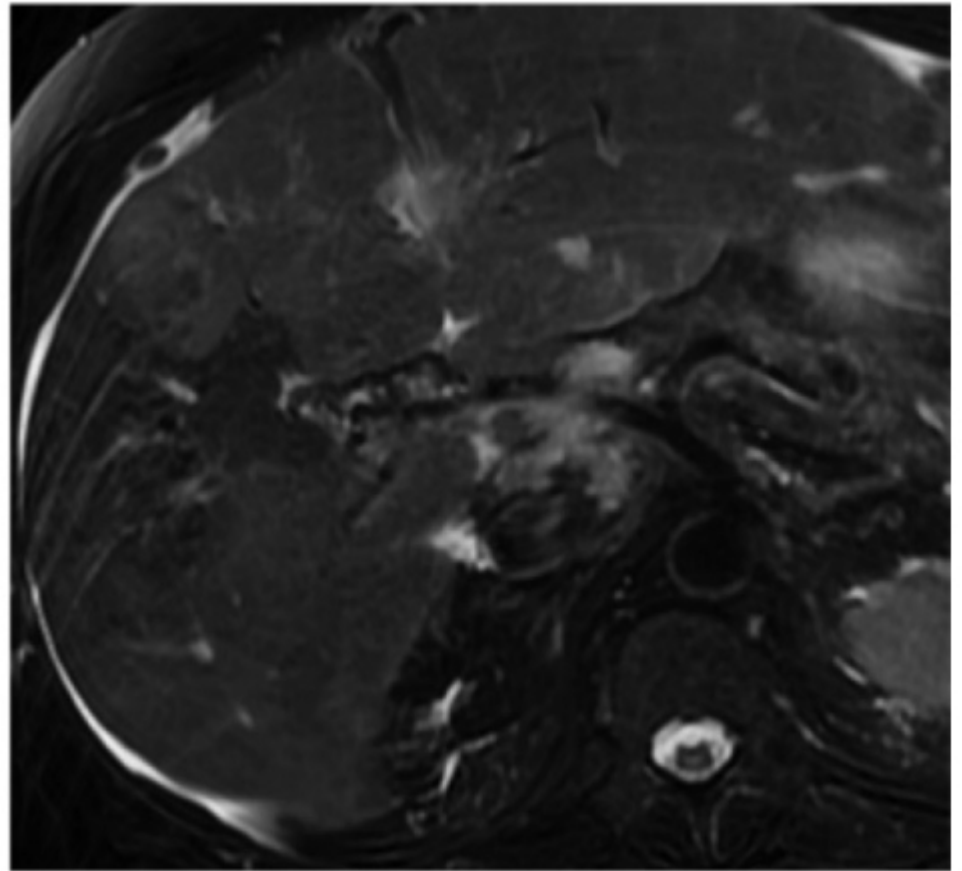


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Figure 3.

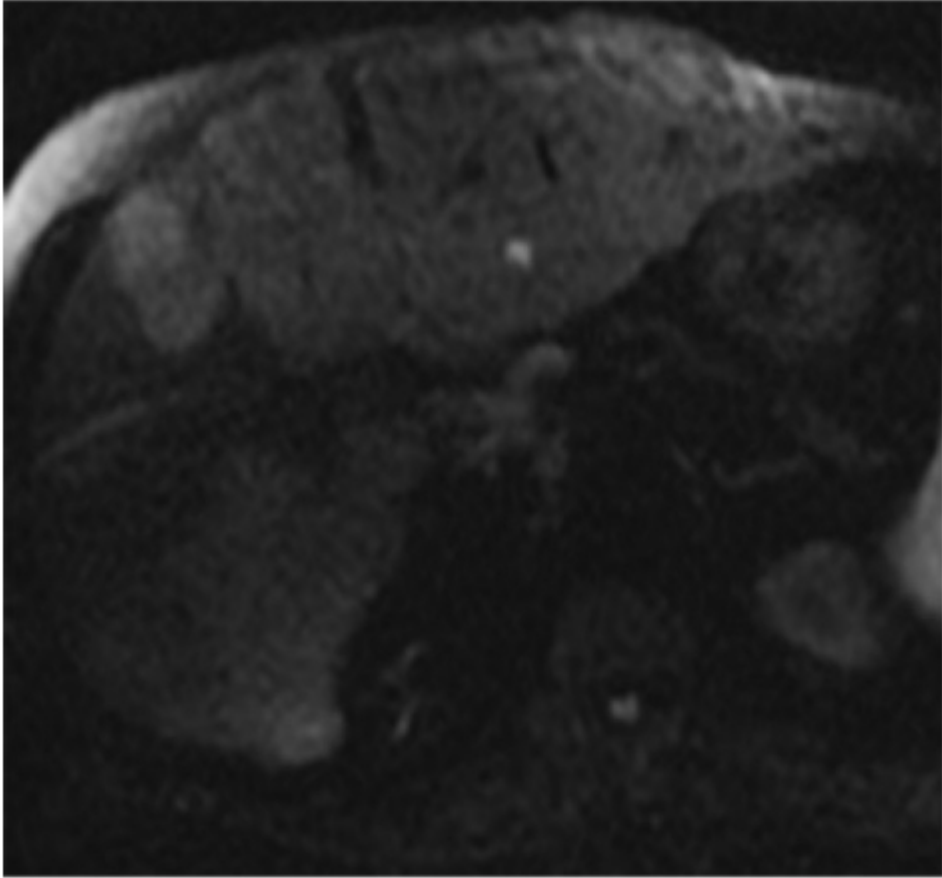


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Figure 3.

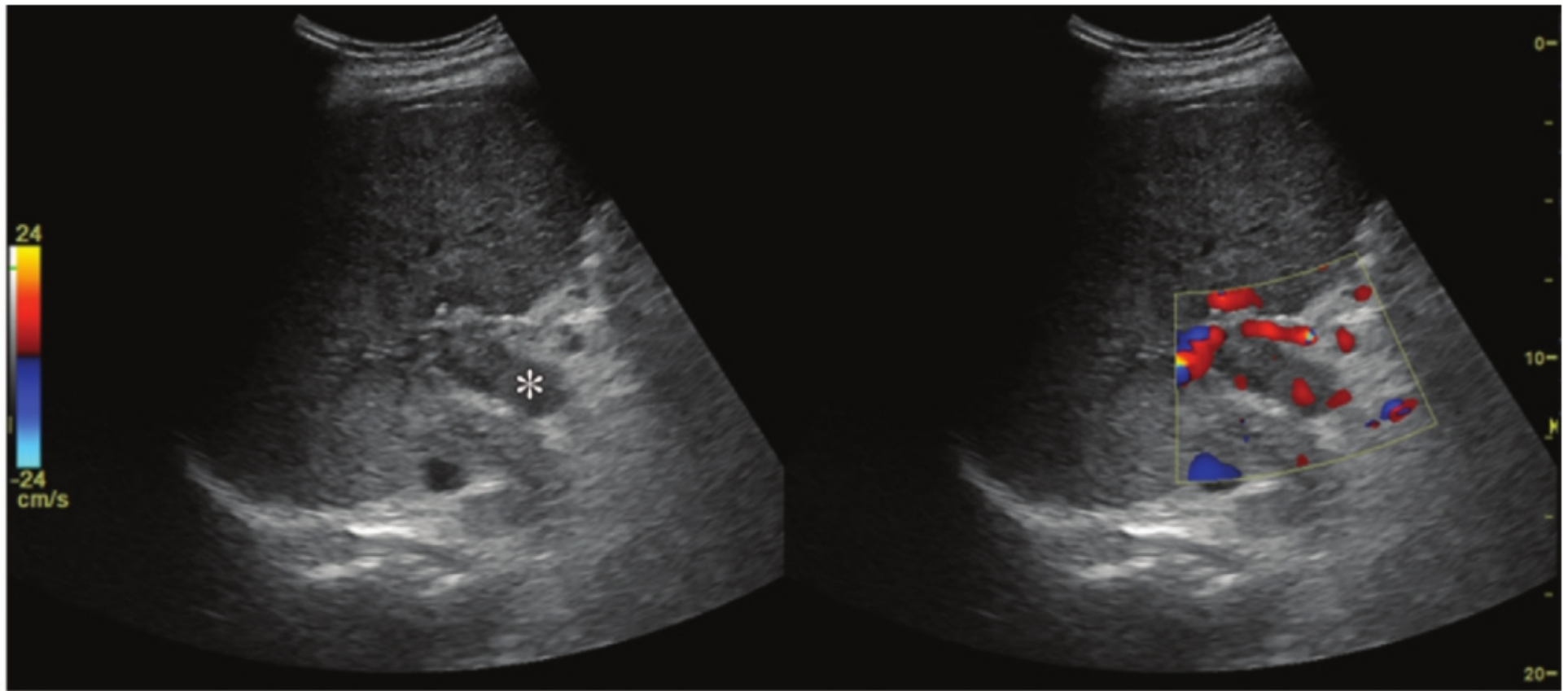


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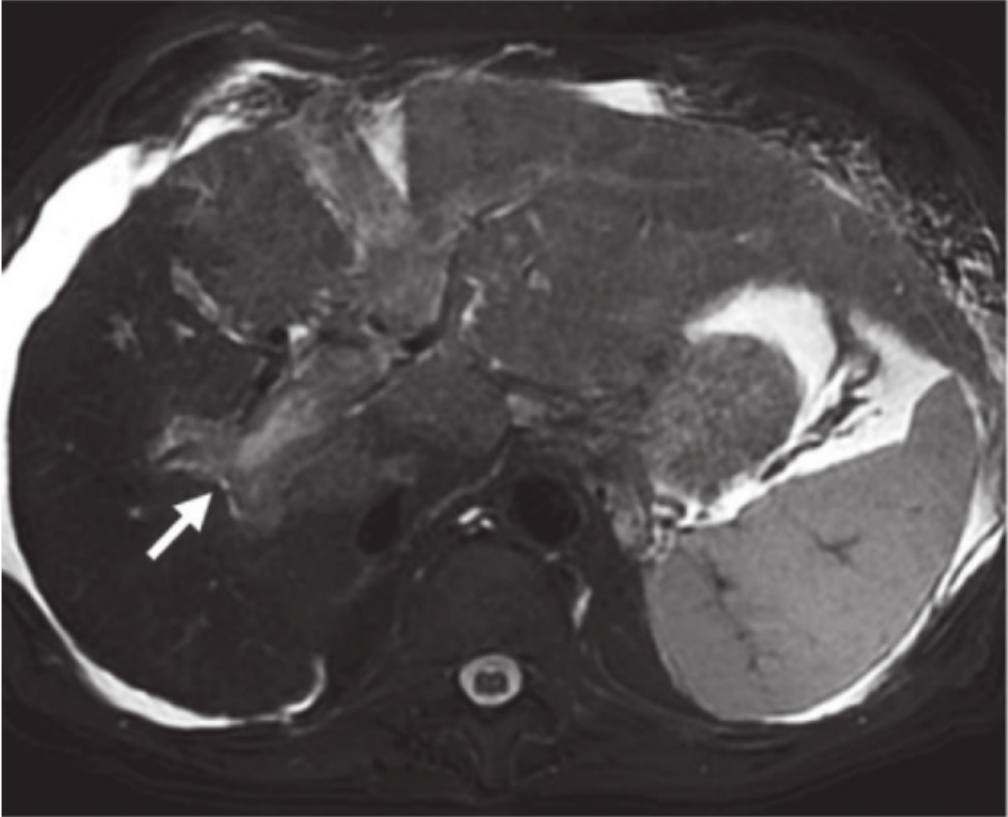
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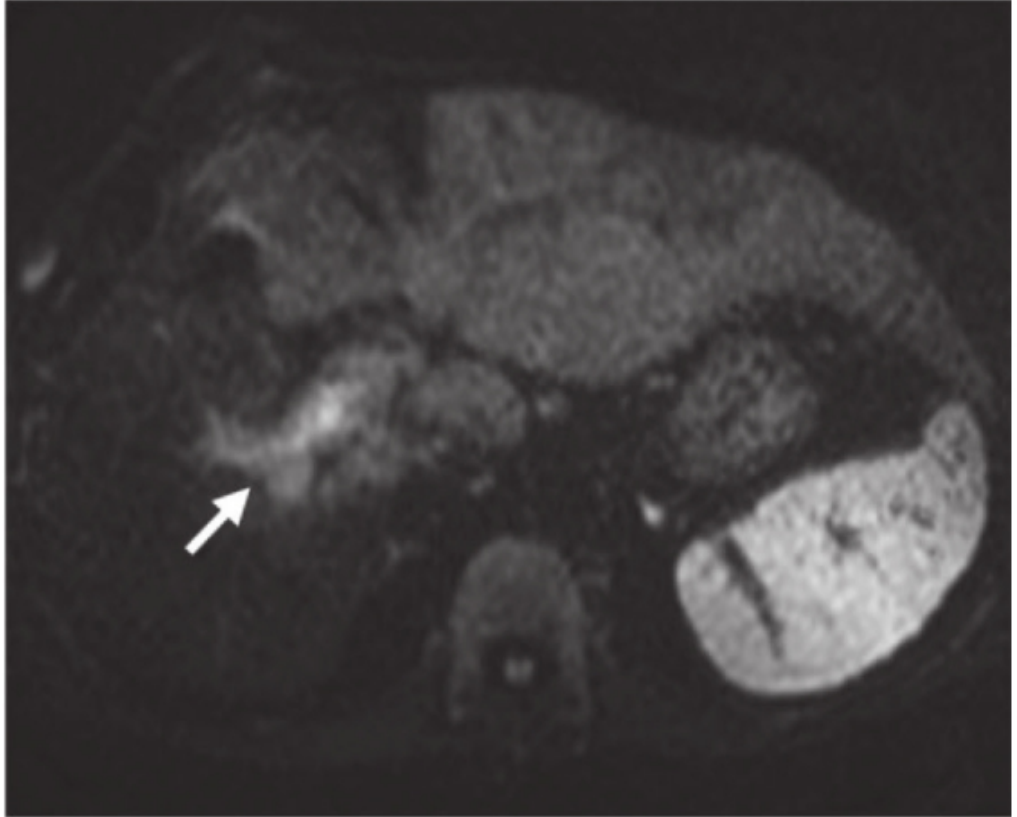


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Figure 4.

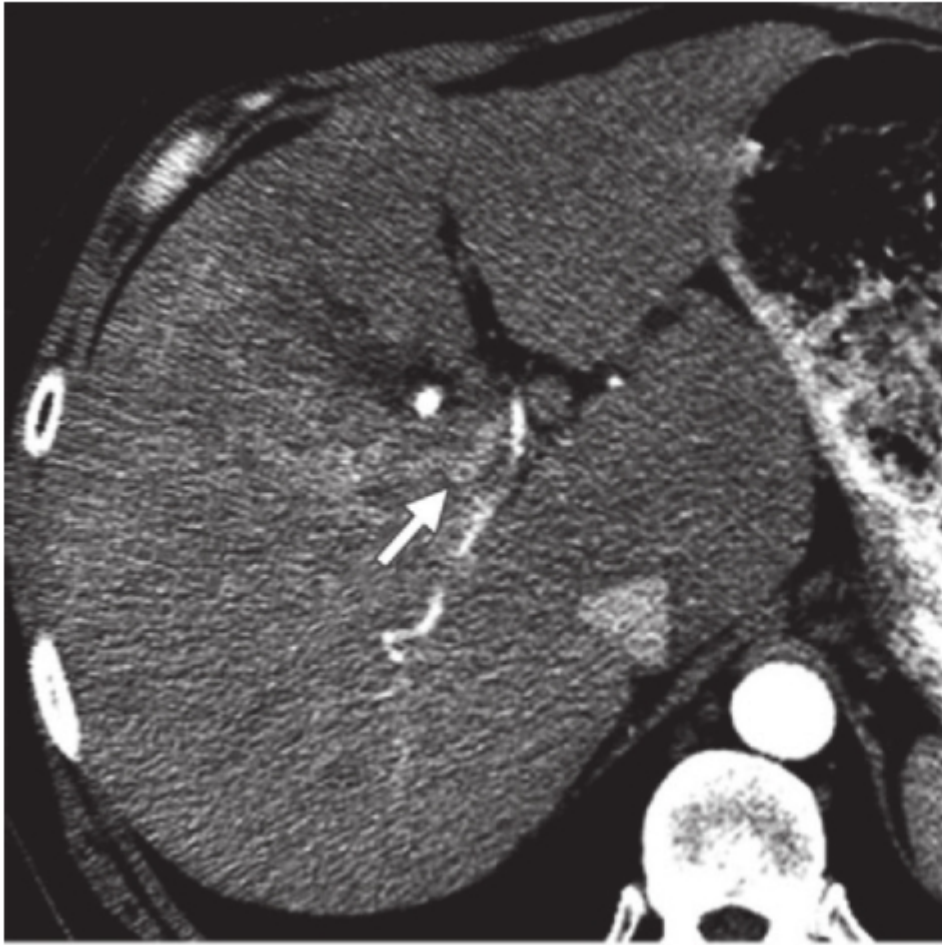


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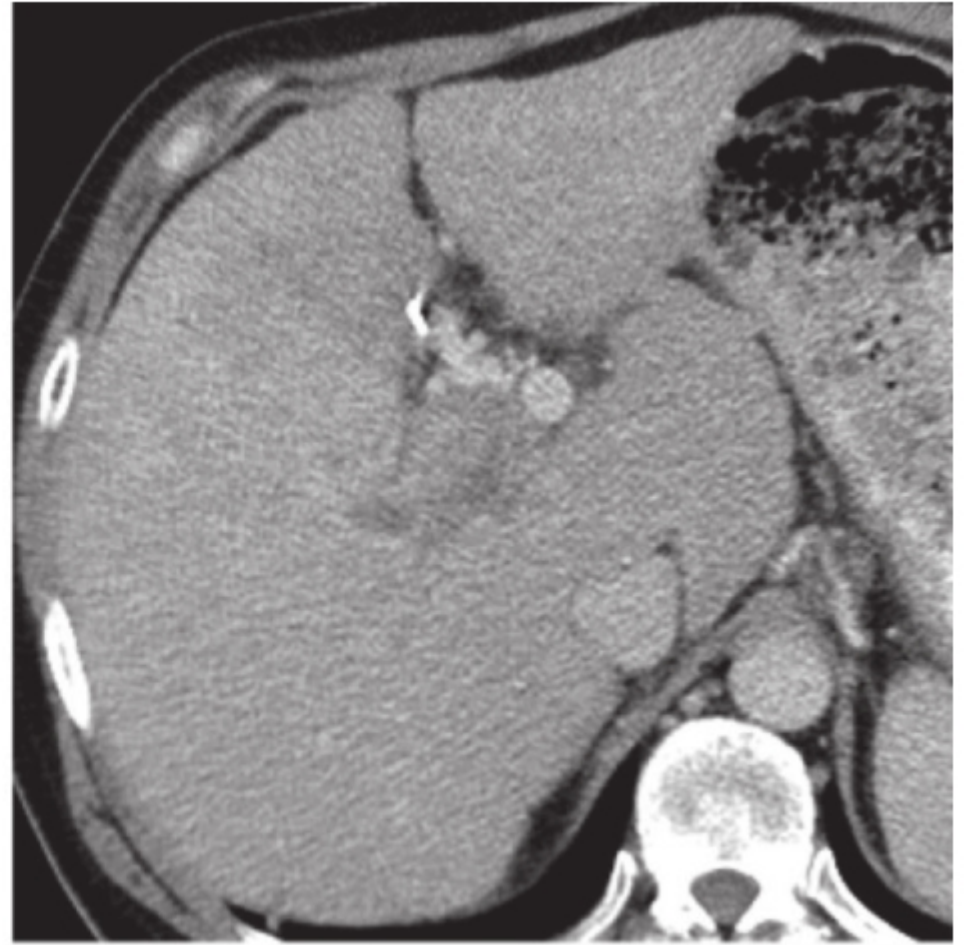


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Figure 4.

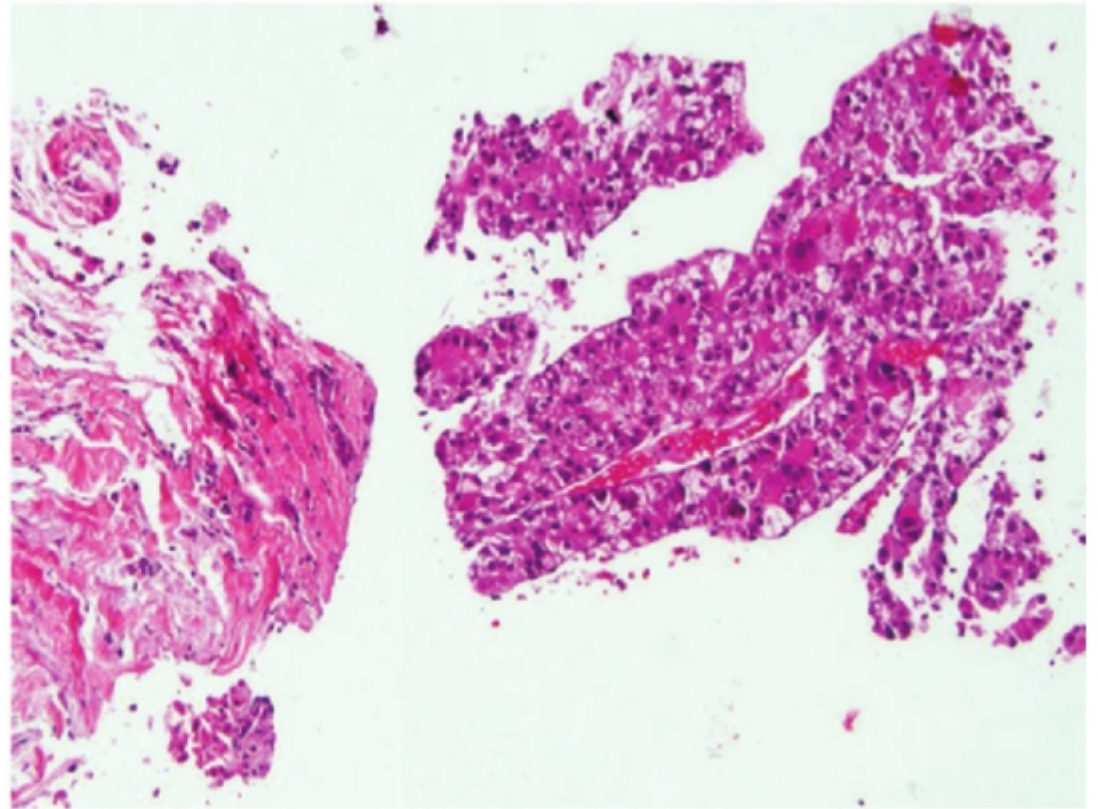
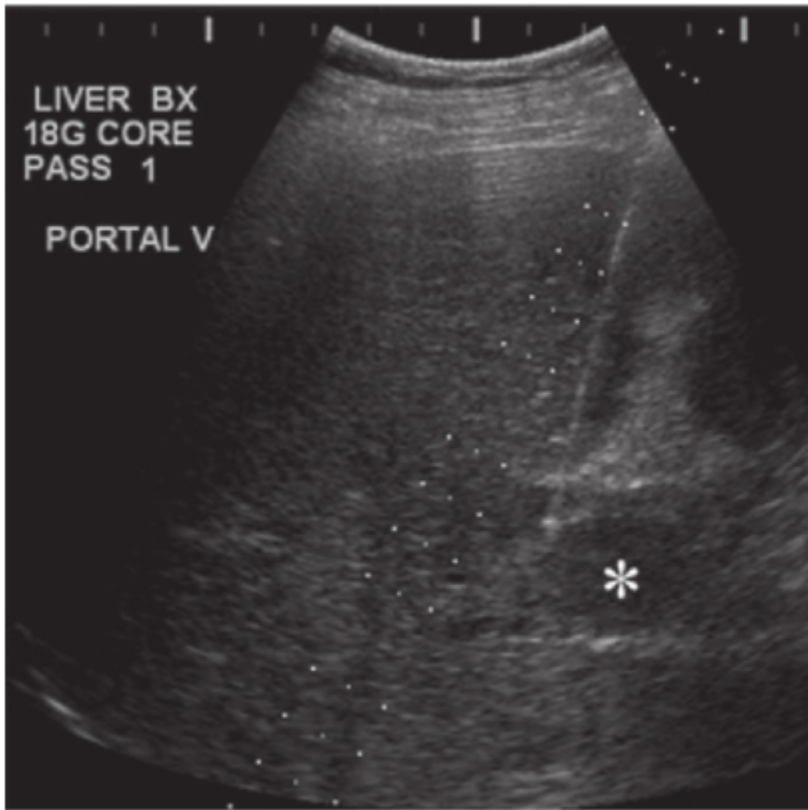


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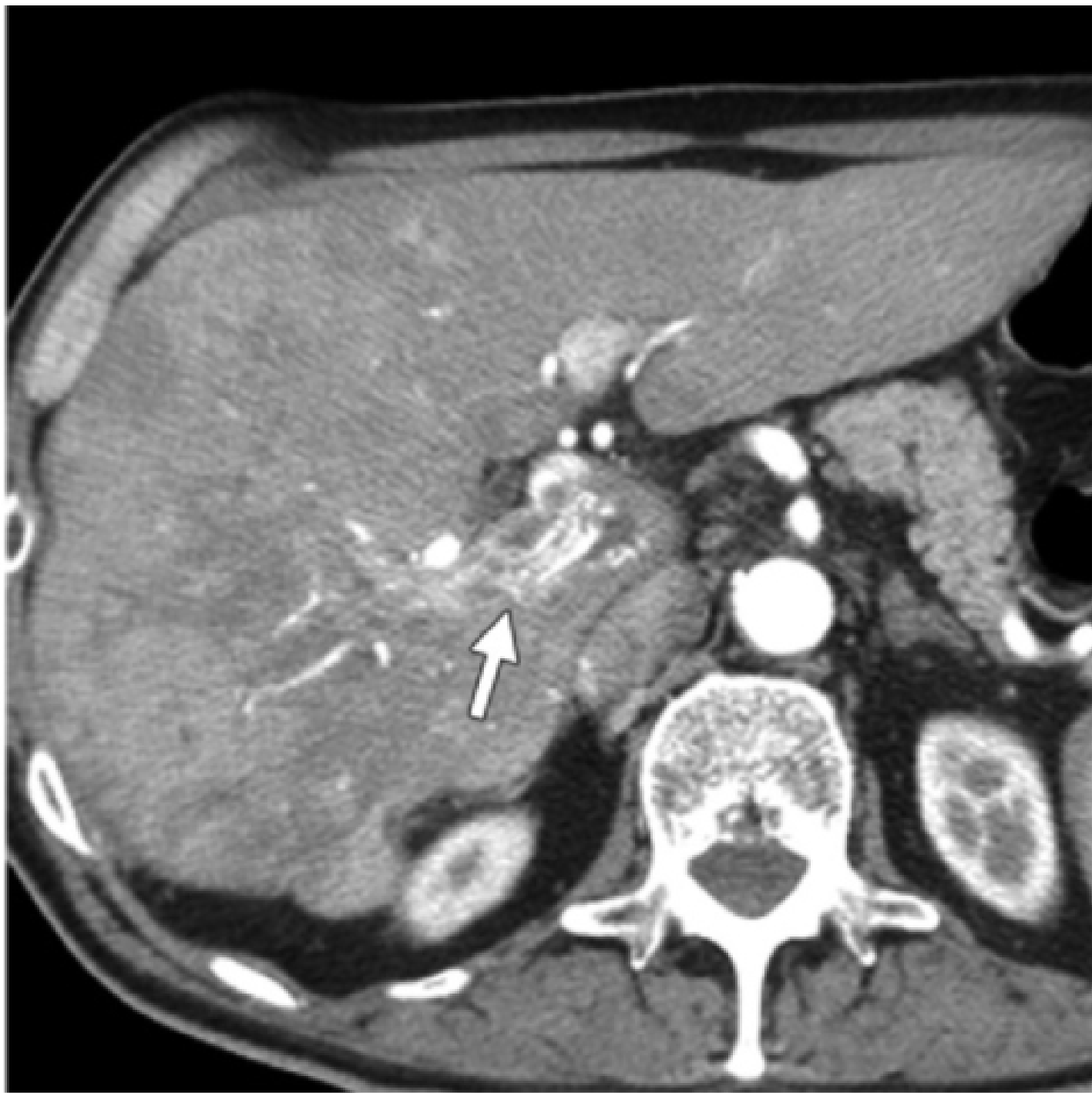
Figure 5.



c.

d.

Figure 5.



a.

Figure 6.



b.



c.

Figure 6.

ENTIDADES SIMULADORAS

FIBROSIS
CONFLUYENTE
FOCAL

DEPÓSITO
GRASO
HEPÁTICO

MICRO-
ABSCESOS
HEPÁTICOS

ENF MTTTS
DIFUSA

(PSEUDO-
CIRROSIS)

COLANGIO-
CARCINOMA
INTRAHEPÁTICO

Table 2: Imaging Features and Distinctions between Infiltrative HCC and Its Mimics

Mimics	Imaging Features	Distinction from Infiltrative HCC
Focal confluent fibrosis	Geographic regions of relatively low attenuation at CT, relative hypointensity on T1-weighted images and mild hyperintensity on T2-weighted images at MR imaging	Often affects the anterior and medial hepatic segments, wedge shaped and radiates from the porta hepatis, capsular retraction, delayed contrast enhancement
Hepatic fat deposition	Geographic and nodular pattern of altered attenuation/signal intensity, affected regions may appear as hypointense at hepatobiliary phase MR imaging	Often distinguishable location (adjacent to gallbladder fossa or falciform ligament), signal loss between dual-echo in-phase and opposed-phase gradient-echo T1-weighted MR images
Hepatic micro-abscesses	Multiple hypoattenuating lesions at CT, hyperintensity on T2-weighted images with faint restricted diffusion and peripheral or septal contrast enhancement at MR imaging	Clinical history
Intrahepatic cholangiocarcinoma	Ill-defined mass, hypointense on T1-weighted images and hyperintense on T2-weighted images	Irregular peripheral enhancement with gradual centripetal enhancement, capsular retraction, tumor thrombus atypical
Diffuse metastatic disease (pseudocirrhosis)	Diffuse metastatic disease with associated alteration of hepatic morphologic features similar to those of cirrhosis	Clinical history of primary malignancy (eg, breast cancer)

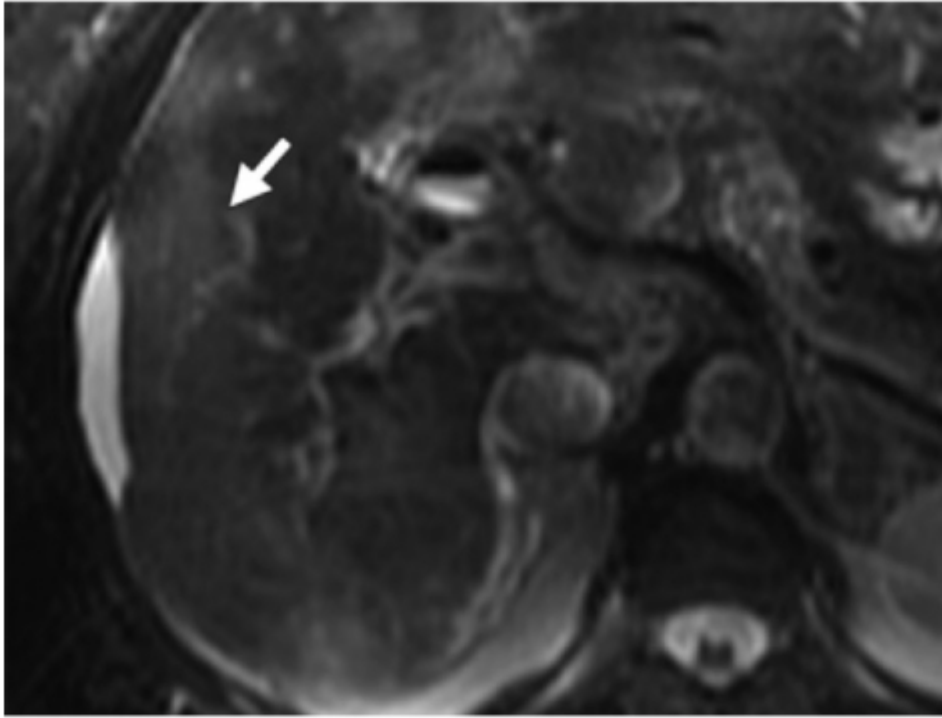


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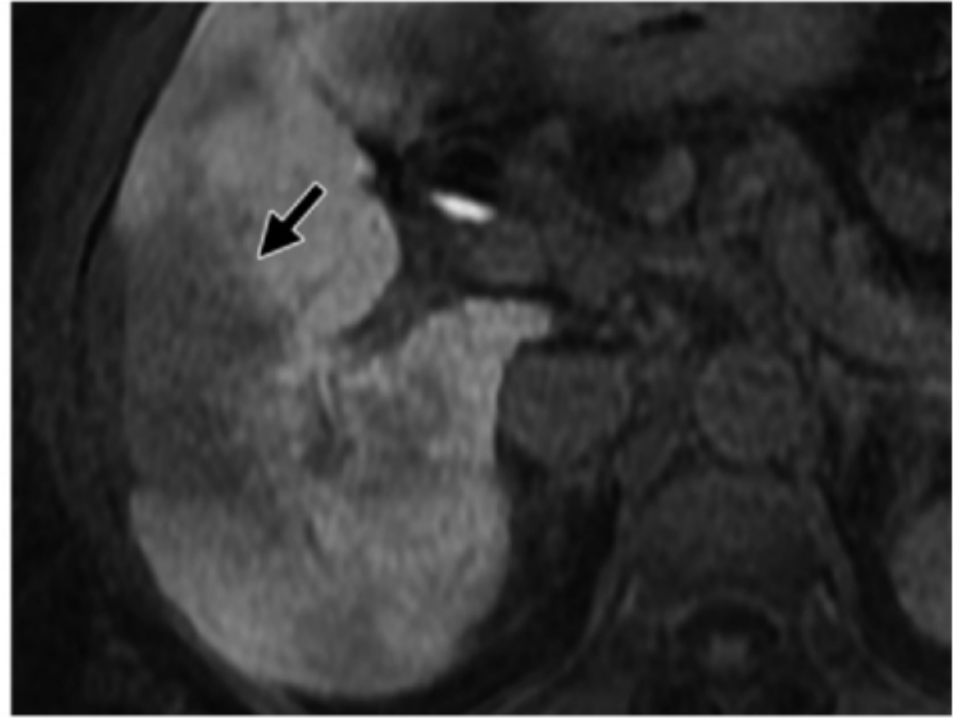


b.

Figure 7.



c.



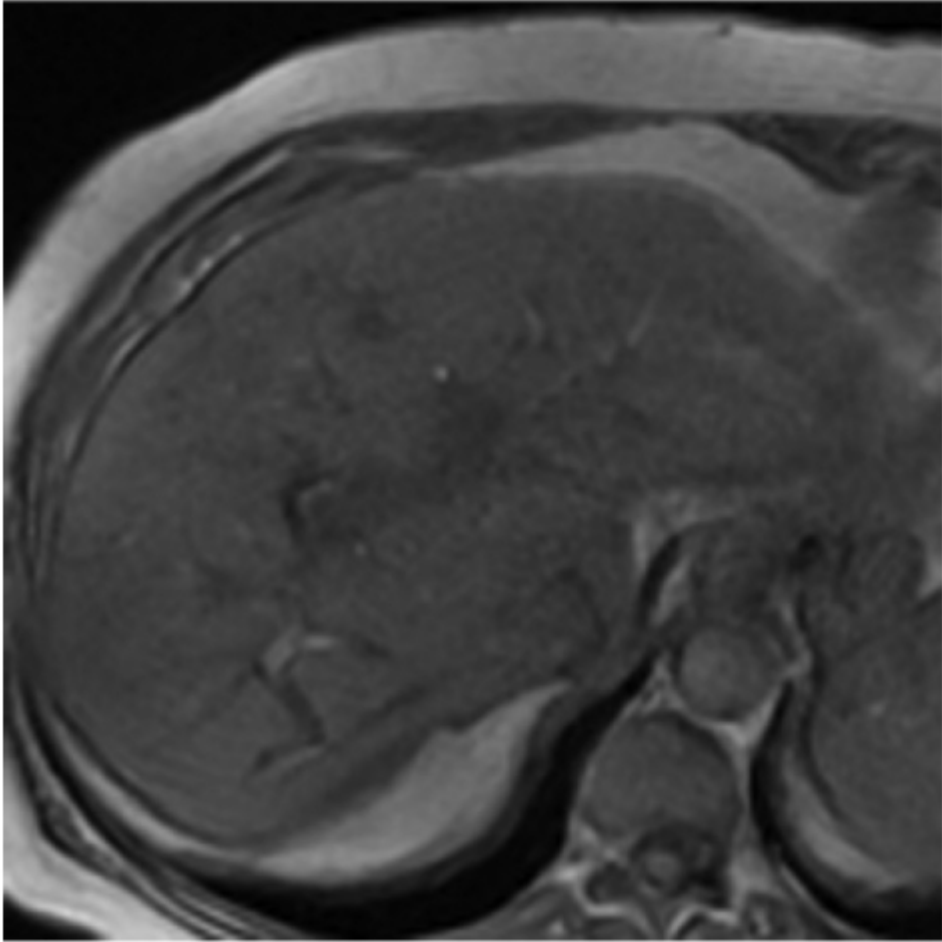
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Figure 7.

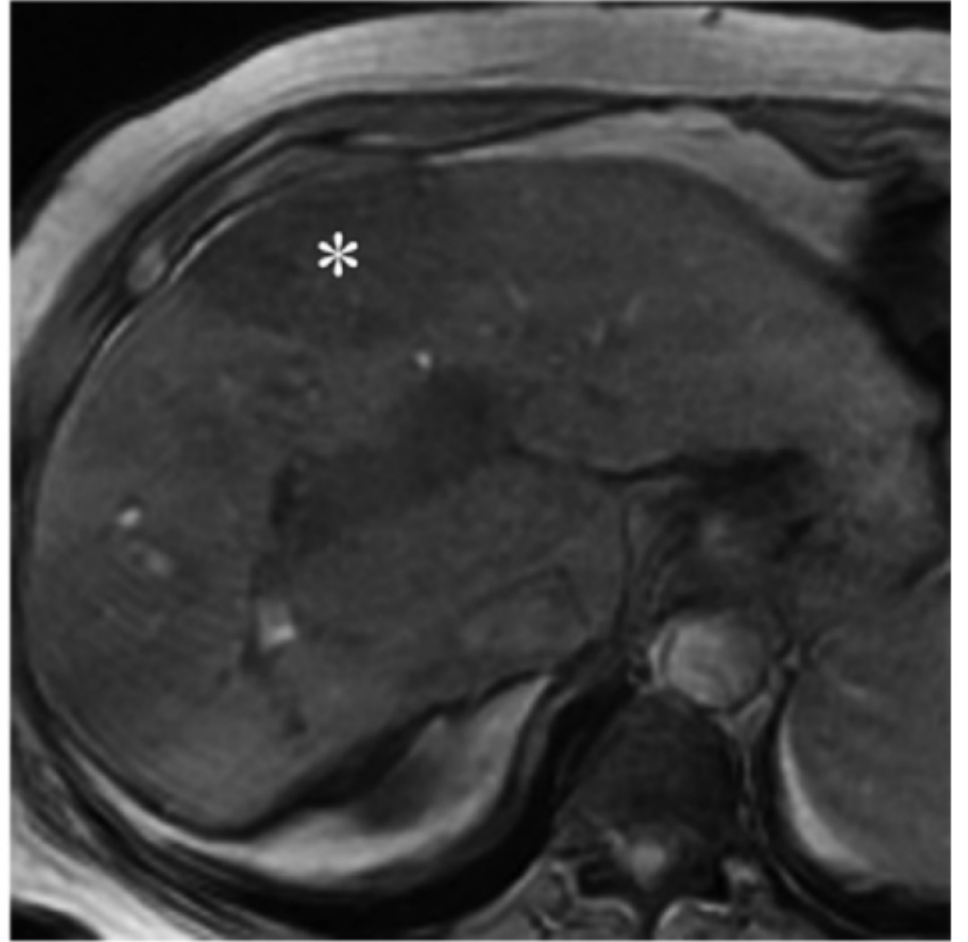


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Figure 8.

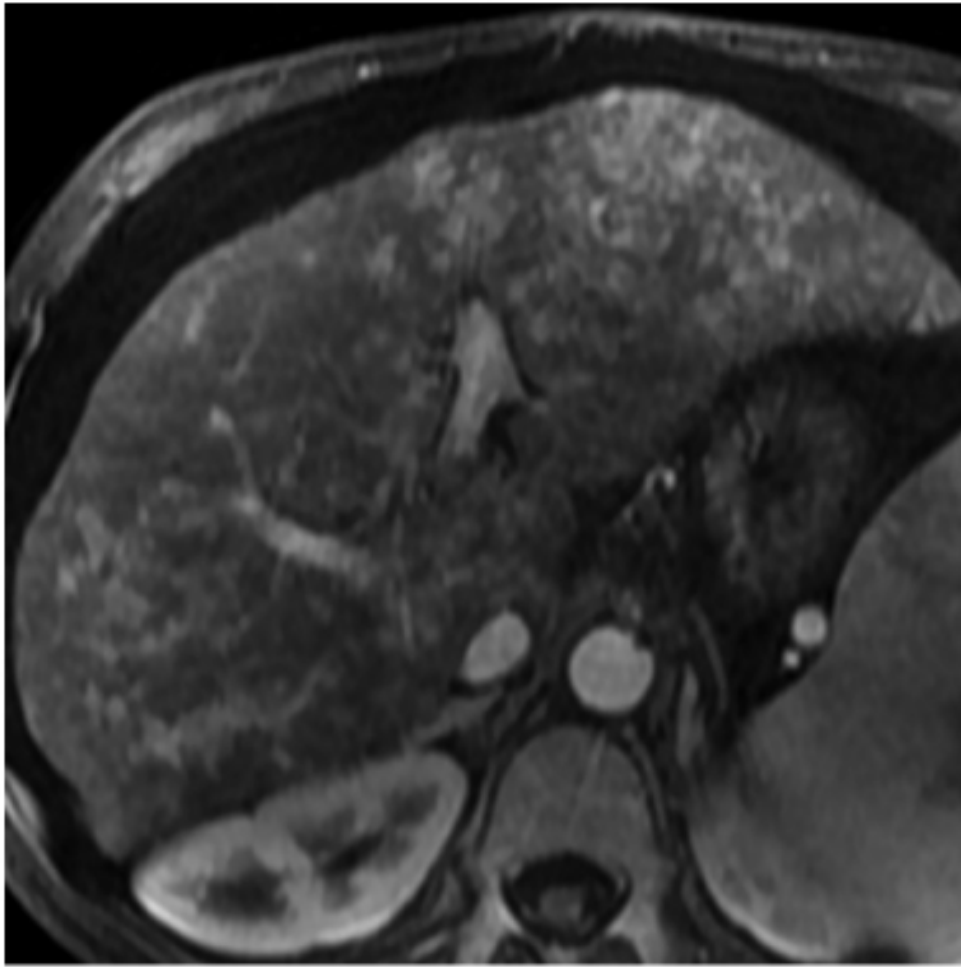


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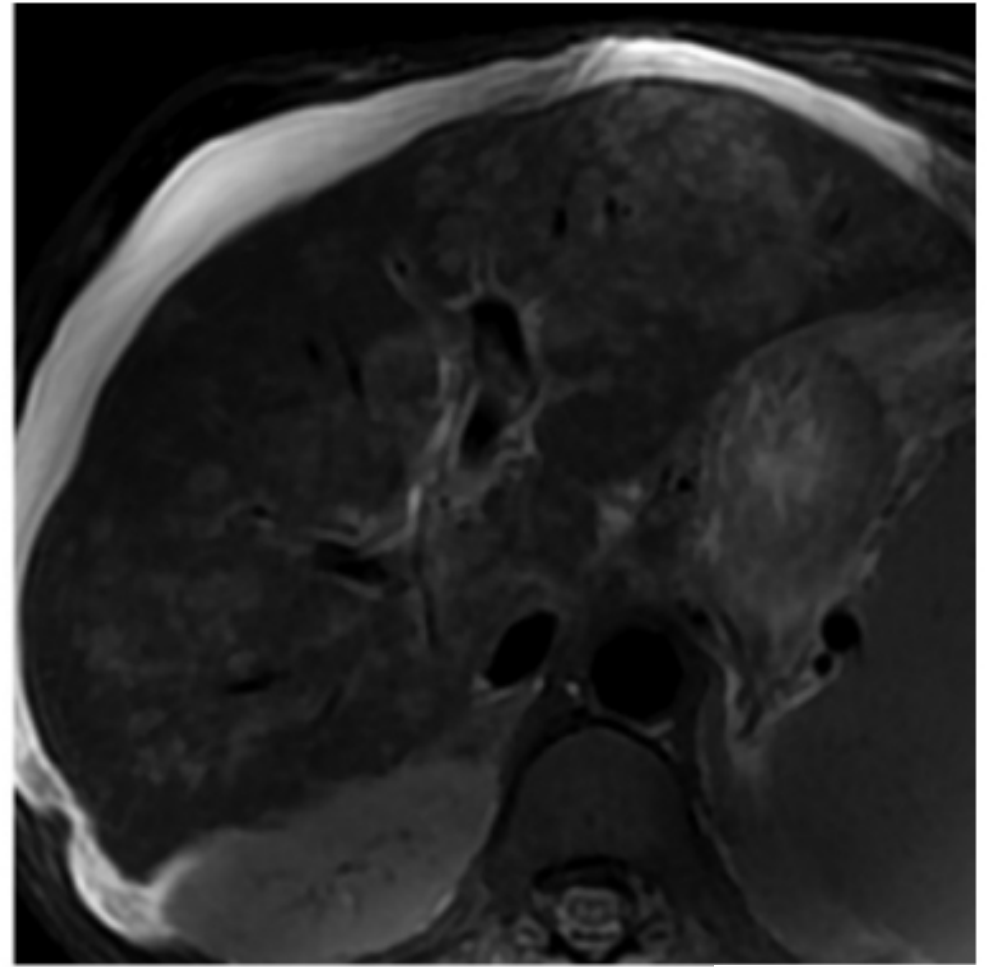


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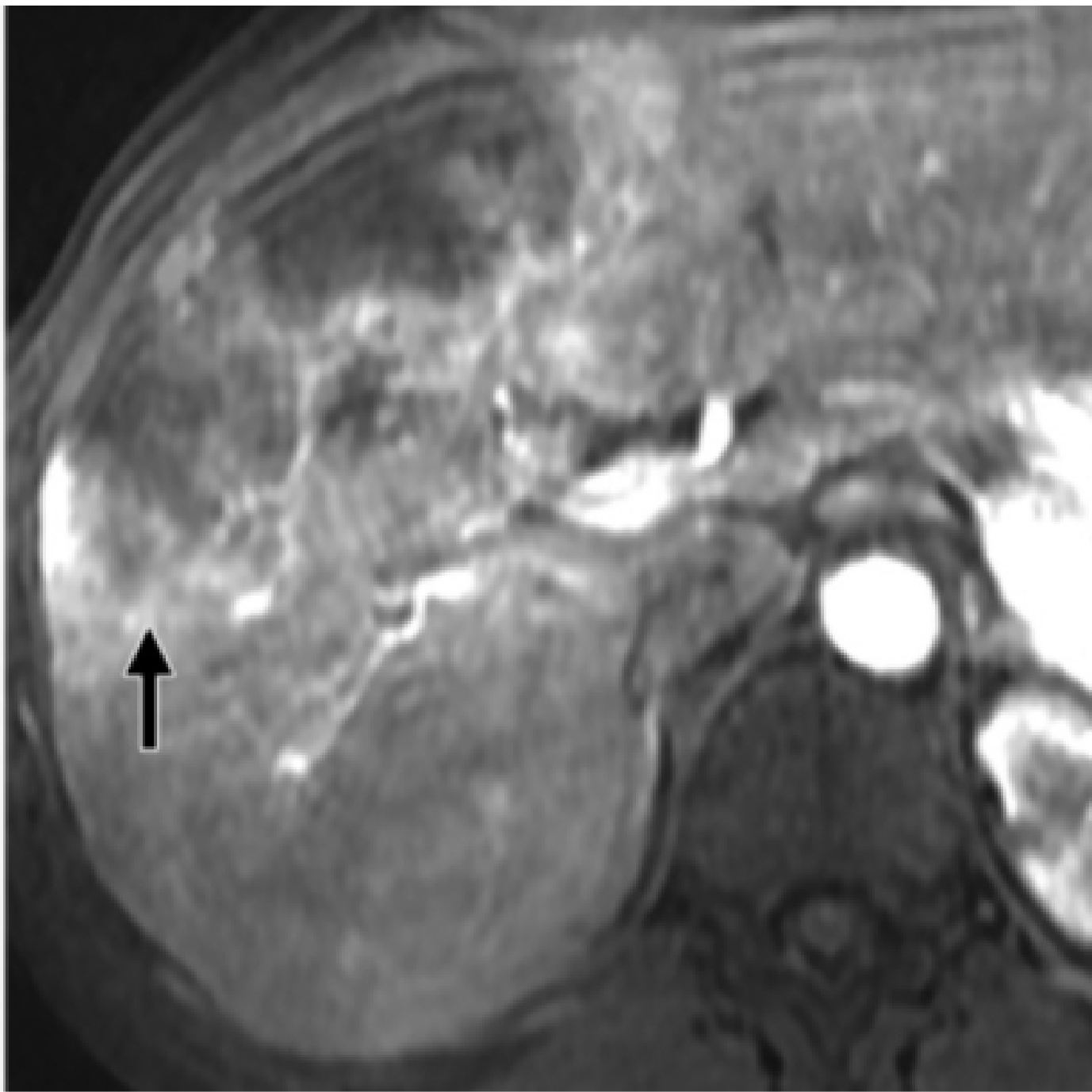


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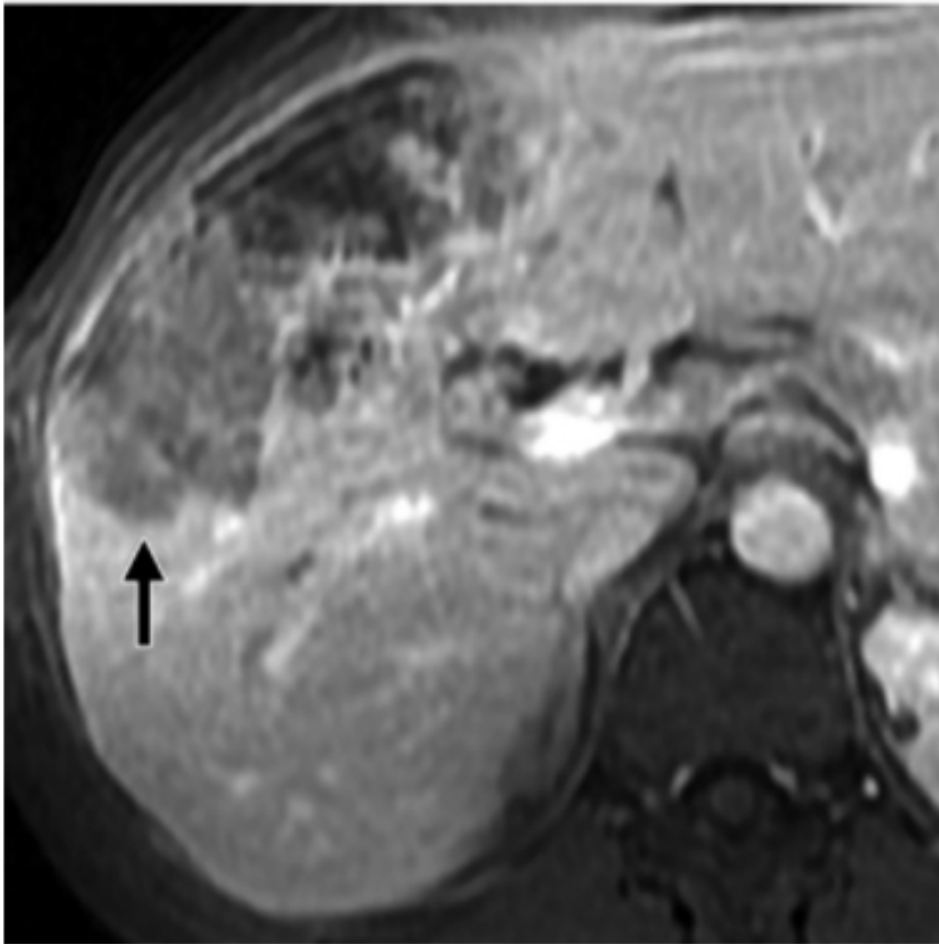
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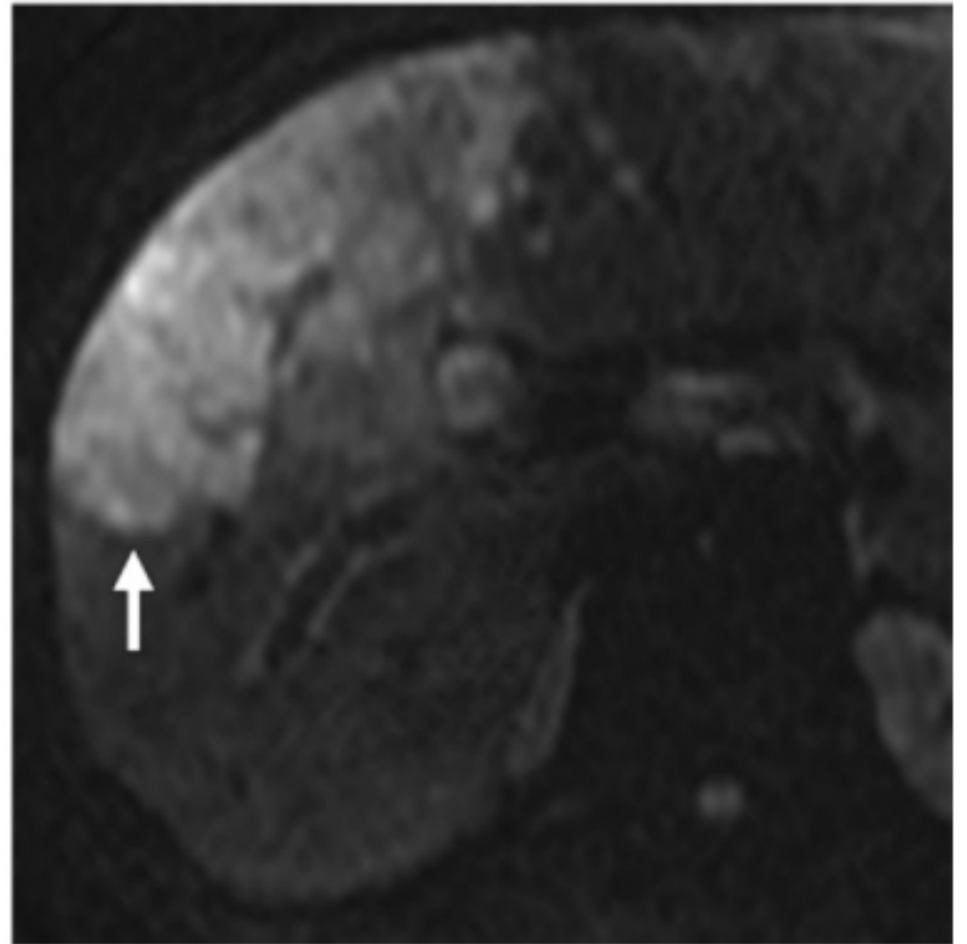


a.

Figure 10.



b.

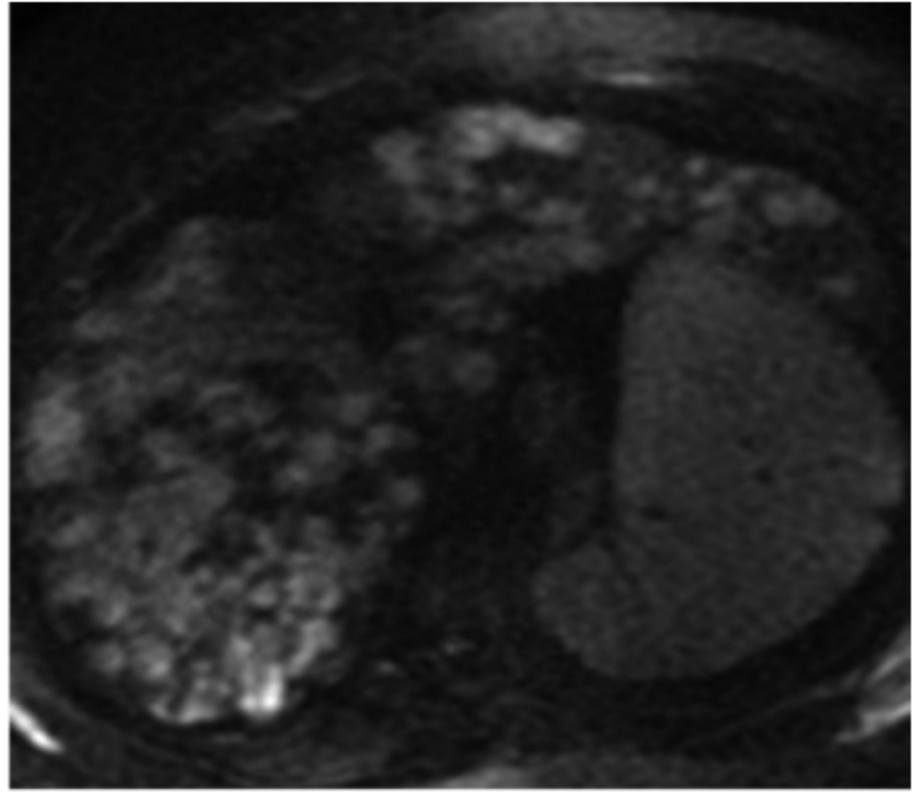


c.

Figure 10.



a.



b.

Figure 11.



