

Incidental finding of intrahepatic cholangiocarcinoma presenting radiographically as hepatocellular carcinoma in post liver transplant

Salomon, Fayssa MD, Niazi, Mumtaz MD, Tafesh, Zaid, MD, Galan, Mark MD

Division of Gastroenterology and Hepatology, Rutgers New Jersey Medical School, Newark, NJ, USA

INTRODUCTION

- HCC does not require a biopsy for diagnosis if specific imaging criteria are fulfilled (Fig 2) as LIRADS 5 classification is thought to carry a near 100% positive predictive value for the diagnosis of HCC (2).
- After HCC, intrahepatic cholangiocarcinoma (ICC) is the second most common primary hepatic malignancy (10% of all cholangiocarcinoma) (1)

CASE PRESENTATION

- A 61-year-old female with alcoholic cirrhosis complicated by liver tumor with radiologic characteristics of hepatocellular carcinoma (HCC) underwent orthotopic liver transplant (OLT).
- Prior to transplant, an abdominal CT revealed multiple hepatic lesions described as HCC based on LIRADS (LR) criteria (Fig. 1). An additional 2 cm lesion in segment 4B with arterial enhancement was described as LR-3.
- Tumor markers including AFP (2655), CA 125 (408), and CEA (5.3) were elevated, while CA 19-9 was within normal range. She was treated with transarterial chemoembolization and microwave ablation of the LR-5 lesions.
- Subsequent MRI of the abdomen revealed a non-viable treated lesion and a segment 4B lesion described as LR-4 (probable HCC) which was treated with locoregional therapy.
- Unfortunately, moderately differentiated intrahepatic cholangiocarcinoma (ICC) was identified within the explanted liver with concern for perineural and lymphovascular invasion.
- Abdominal imaging 3 months after transplant noted possible peritoneal carcinomatosis. Chemotherapy with gemcitabine and oxaliplatin was initiated.
- Unfortunately, patient's clinical status progressively declined leading to death 203 days after transplant.

		Arterial phase hypo- or iso-enhancement		Arterial phase hyper-enhancement		
		< 20 mm	≥ 20mm	< 10 mm	10-19 mm	≥ 20mm
Washout	Diameter	None	LR-3	LR-3	LR-3	LR-4
		One	LR-3	LR-4	LR-4	LR-5
		≥ Two	LR-4	LR-4	LR-4	LR-5
Capsule Threshold growth	Diameter	None	LR-3	LR-3	LR-3	LR-4
		One	LR-3	LR-4	LR-4	LR-5
		≥ Two	LR-4	LR-4	LR-4	LR-5

Figure 1: LIRADS criteria algorithm

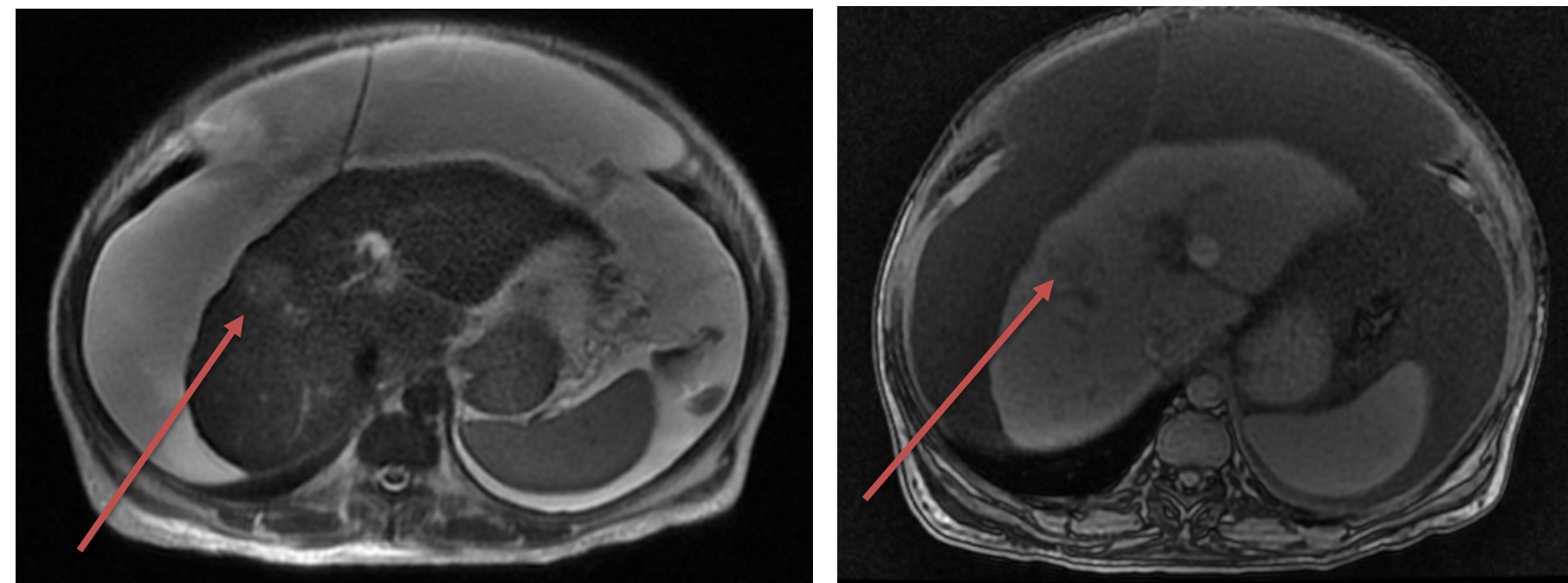


Figure 2: Coronal section of MRI abdomen/showing hepatic lesions.

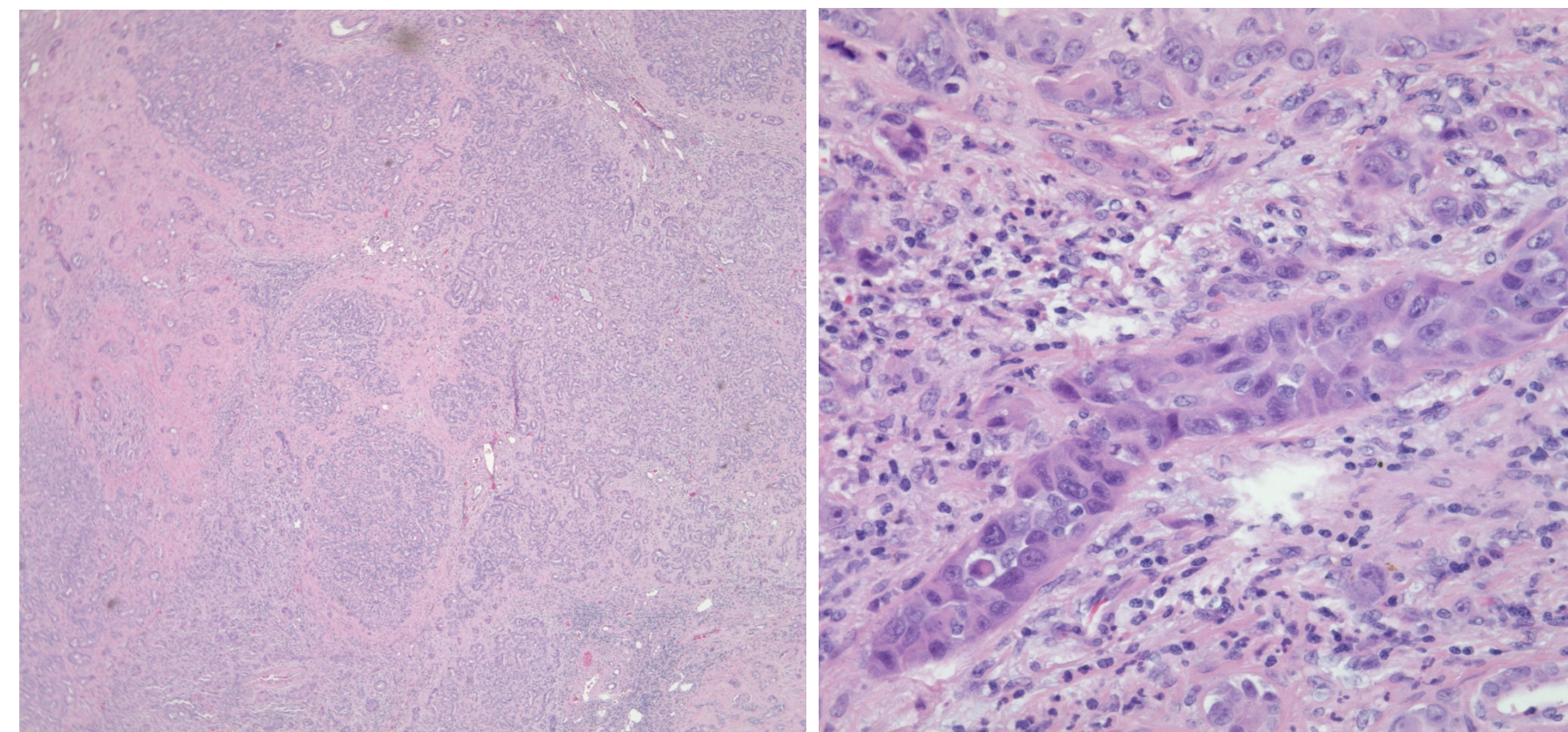


Figure 3: View of the liver showing nodules of carcinoma (a) and marked cytologic atypia of the malignant glands (b).

Corresponding author: Fayssa Salomon, Department of Gastroenterology and hepatology. Rutgers New Jersey Medical School, E-mail: fs459@njms.rutgers.edu

DISCUSSION

- On contrast-enhanced imaging, ICCs typically show peripheral rim enhancement with progressive and incomplete centripetal enhancement and peripheral washout.
- In a systemic review, the incidence of misdiagnosed/incidental ICC/cHCC-CC in liver explants was found to be 0.7% with recurrence rate of 42% after liver transplant. The median disease-free survival time was 8 months (1).

ICC that develops in cirrhotic patients more frequently shows atypical imaging features such as arterial phase nodular hyper-enhancement, which can potentially mimic HCC (4).

The outcome of liver transplant in patients with incidental cholangiocarcinoma is poor.

There is no effective screening strategy for CCA although MRI and CA 19-9 can be used (but was normal in our case). Therapy for CCA is challenging and resection, when possible, is the mainstay of therapy. Gemcitabine in combination with cisplatin or biologics may offer a modest survival benefit (1).

Histologic confirmation is crucial for appropriate management; therefore, tissue diagnosis of equivocal lesions (such as LR-4) should be strongly considered.

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