

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

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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. 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. The initiation of chemotherapy was delayed pending tissue diagnosis, in addition to the patient's multiple hospital admissions for infection, anemia and failure to thrive. 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.

Discussion

HCC can be diagnosed using the LIRADS 5 classification which carries a near 100% positive predictive value. 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. ICC that develops in cirrhotic patients more frequently shows atypical imaging features such as arterial phase nodular hyper-enhancement, which can potentially mimic HCC. Histologic confirmation is crucial for appropriate management, therefore tissue diagnosis of equivocal lesions (such as LR-4) should be strongly considered.

Conclusion

The outcome of liver transplant in patients with incidental cholangiocarcinoma is poor. Early initiation of chemotherapy may offer survival benefits. Thus, it is crucial to have high level of suspicion since screening modalities can be misleading.