

# Incidental Cholangiocarcinoma Diagnosed in Explanted Livers: A Single Center Experience

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## Dear Editor,

Cholangiocarcinoma (CCA) is the second most common primary malignancy of the liver with an incidence of 0.01% to 0.8% worldwide (1). Unfortunately, many patients with this tumor are asymptomatic, and specially in patients with primary sclerosing cholangitis, CCA could remain undiagnosed before liver transplantation and is diagnosed after transplantation by pathologic examination of the explanted liver (2, 3). Previous reports showed an incidence of about 1% in other centers in Western countries (1, 2). In this letter, the authors will describe their experience with incidental finding of CCA in explanted livers during 3 years among more than 1000 liver transplants.

During the study period (2014 to 2016) during 3 years, among more than 1000 liver transplants, the authors evaluated all the cases, which had the diagnosis of CCA either clinically or pathologically. During these 3 years, all the explanted livers were examined by an expert pathologist, i.e. each liver was thoroughly investigated by thin sections (< 1-cm in thickness) to find very small lesions different from the surrounding cirrhotic nodules. Each lesion or any nodule was examined and sectioned precisely. The microscopic sections were seen by an expert hepatopathologist for the presence of any lesions in the biliary tract epithelium.

During these 3 years, there were 17 cases of cholangiocarcinoma, 4 (0.4%) of which had not been diagnosed before transplantation, i.e. they had been diagnosed after pathologic examination of the explanted cirrhotic livers. In 4 incidental CCA cases, all were male with ages of 25, 26, 51, and 60 years. Three of these cases had occurred in patients with primary Sclerosing Cholangitis (PSC) and one had synchronously occurred with a nodule of hepatocellular carcinoma, in a patient with cryptogenic cirrhosis (this case had already been published as a case report (3)). The age range of the cases was from 21 to 60 years, and there

were 6 female and 11 male patients.

In conclusion, it seems that the incidental finding of CCA was very low at the center of the current study, most of which had been found in patients with underlying disease i.e. PSC.

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## References

1. Ghali P, Marotta PJ, Yoshida EM, Bain VG, Marleau D, Peltekian K, et al. Liver transplantation for incidental cholangiocarcinoma: analysis of the Canadian experience. *Liver Transpl.* 2005;11(11):1412-6. doi: 10.1002/lt.20512. [PubMed: 16237695].
2. Takahashi K, Obeid J, Burmeister CS, Bruno DA, Kazimi MM, Yoshida A, et al. Intrahepatic Cholangiocarcinoma in the Liver Explant After Liver Transplantation: Histological Differentiation and Prognosis. *Ann Transplant.* 2016;21:208-15. doi: 10.12659/AOT.895936. [PubMed: 27068242].
3. Geramizadeh B, Ghavvas R, Kazemi K, Shamsaefar A, Nikeghbalian S, Malekhosseini SA. Cholangiocarcinoma Secondary to Primary Sclerosing Cholangitis in Explanted Livers: A Single-Center Study in the South of Iran. *Hepat Mon.* 2015;15(12):e33626. doi: 10.5812/hepatmon.33626. [PubMed: 26977169].