ABSTRACT

Background: The aim of this study was to investigate the diagnostic role of alpha-fetoprotein (AFP) and DCP (des-gamma-carboxy prothrombin) for hepatocellular carcinoma (HCC) in patients with advanced liver cirrhosis (LC) awaiting liver transplantation (LT).

Material/Methods: During a study period of 10 years, 2074 adult LT recipients were identified. They were stratified into 5 categories as model for end-stage liver disease (MELD) score <10 (category A: n=464), ≥10 and <15 (category B: n=632), ≥15 and <20 (category C: n=355), ≥20 and <30 (category D: n=340), and ≥30 (category E: n=283).

Results: Median pretransplant AFP vs. DCP levels were 11.3 ng/mL vs. 26 mAU/mL in the HCC group. The non-HCC group, 4.2 ng/mL vs. 22 mAU/mL. The HCC group showed lower MELD score (13.2±6.9 vs. 13.2±6.9; p<0.001) and received living-donor LT more frequently (83.2% vs. 83.2%; p<0.001) than the non-HCC group. The median pretransplant AFP levels were 11.3 ng/mL and 4.2 ng/mL in the HCC and non-HCC groups, respectively (p<0.001). Elevated pretransplant AFP was observed in 602 patients (62.1%) in HCC group and 362 patients (32.8%) in non-HCC group. Elevated pretransplant AFP was observed in 330 patients (34.0%) in HCC group and 346 patients (31.3%) in non-HCC group.

Conclusion: Diagnostic predictability of AFP was reliably associated with MELD score, but that of DCP was not. The sensitivity of AFP and DCP is not high enough especially in patients with MELD score ≥20, thus thorough HCC screening with imaging studies should be performed during the waiting period for liver transplantation.