Liver transplantation for hepatocellular carcinoma: impact of expansion criteria in a multicenter cohort study from a high waitlist mortality region

Abstract

This study aimed to compare liver transplantation (LT) outcomes and evaluate the potential rise in numbers of LT candidates with hepatocellular carcinoma (HCC) of different allocation policies in a high waitlist mortality region. Three policies were applied in two Latin American cohorts (1085 HCC transplanted patients and 917 listed patients for HCC): (i) Milan criteria with expansion according to UCSF downstaging (UCSF-DS), (ii) the AFP score, and (iii) restrictive policy or Double Eligibility Criteria (DEC; within Milan + AFP score ≤2). Increase in HCC patient numbers was evaluated in an Argentinian prospective validation set (INCUCAI; NCT03775863). Expansion criteria in policy A showed that UCSF-DS [28.4% (CI 12.8-56.2)] or "all-comers" [32.9% (CI 11.9-71.3)] had higher 5-year recurrence rates compared to Milan, with 10.9% increase in HCC patients for LT. The policy B showed lower recurrence rates for AFP scores ≤2 points, even expanding beyond Milan criteria, with a 3.3% increase. Patients within DEC had lower 5-year recurrence rates compared with those beyond DEC [13.3% (CI 10.1-17.3) vs 24.2% (CI 17.4-33.1; P = 0.0006], without significant HCC expansion. In conclusion, although the application of a stricter policy may optimize the selection process, this restrictive policy may lead to ethical concerns in organ allocation (NCT03775863).

Keywords: allocation; hepatocellular carcinoma; liver transplantation; selection.

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