

# ABO blood type does not affect recurrence of hepatocellular carcinoma after liver transplantation: analysis of the Korean Organ Transplantation Registry database

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**Background:** Liver transplantation (LT) is a viable treatment for hepatocellular carcinoma (HCC), removing the tumor and resolving cirrhosis. The effect of ABO blood types on HCC recurrence after LT is debated. This study analyzes the Korean Organ Transplantation Registry (KOTRY) database to investigate this relationship, aiming to understand the impact of ABO blood types on HCC recurrence and potentially inform patient selection and therapeutic strategies.

**Methods:** This study examined 2,380 patients from the KOTRY registry who underwent adult living donor LT between April 1, 2014, and December 31, 2021, for HCC. Exclusions were made for retransplantation, multi-organ transplantation, age <20 years, and other liver diseases. There was no statistically significant difference in characteristics of recipient, donor and graft by ABO blood groups except ABO incompatibility of LT because there was no ABO incompatible LT in AB group.

**Results:** No significant differences were observed in recurrence-free survival ( $P=0.788$ ) and overall survival ( $P=0.447$ ) across different ABO blood groups following LT. In the subgroup analysis of the ABO compatible LT, ABO incompatible LT, within Milan criteria, and beyond Milan criteria, there were no significant differences in recurrence free survival and overall survival between the ABO blood groups.

**Conclusions:** This study is based on the nationwide database, and among the studies comparing the effects of ABO blood type in patients who received LT for HCC, the largest number of patients data was analyzed. Based on the KOTRY database, ABO blood type does not affect HCC recurrence and overall survival after LT.

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