Topic : Liver

## IDENTIFYING RISK FACTORS FOR DIFFUSE INTRAHEPATIC BILIARY STRICTURE IN ABO-INCOMPATIBLE LIVING DONOR LIVER TRANSPLANTATION: AN ANALYSIS OF 1,000 CASES.

## Young-In YOON<sup>1</sup>, Gi-Won SONG<sup>1</sup>

<sup>1</sup> Division of Hepatobiliary Surgery And Liver Transplantation, Asan Medical Center, University of Ulsan, Republic of Korea

**Background** : Diffuse intrahepatic biliary stricture (DIHBS) is a critical and refractory complication of antibody-mediated rejection (AMR) following ABO-incompatible living donor liver transplantation (LDLT). This study aims to assess the clinical outcomes of DIHBS in AMR patients and identify key risk factors associated with its development in a cohort of 1,000 ABO-incompatible LDLT recipients.

**Methods**: We retrospectively reviewed the medical records of 1042 patients undergoing ABO-incompatible LDLT between November 2008 and June 2024 performed at a single institution in Korea.

**Results** : DIHBS occurred in 52 out of 1,042 ABO-incompatible LDLT recipients, resulting in an incidence rate of 4.99%. DIHBS was associated with significantly lower overall survival and graft survival in recipients compared to those without DIHBS (p = 0.001 for both). Multivariable analysis revealed that recipient blood type O (odds ratio [OR]: 3.691, 95% confidence interval [CI]: 1.439-9.469; p = 0.007), the number of preoperative plasma exchanges (OR: 1.118, 95% CI: 1.021-1.235; p = 0.028) and postoperative plasma exchanges (OR: 1.066, 95% CI: 1.011-1.123; p = 0.018), and a diagnosis of rejection on biopsy were independent risk factors for DIHBS. Additionally, elevated peak anti-ABO antibody titers within the first month post-transplantation were strongly predictive of DIHBS, with titers  $\geq$  1:1024 (OR: 17.312, 95% CI: 2.824-88.687; p = 0.002) showing the highest risk.

**Conclusions** : The Rituximab-based desensitization protocol for ABO-incompatible LDLT demonstrated feasibility with acceptable DIHBS outcomes. However, due to the significant impact of DIHBS on survival, especially in high-risk patients, tailored desensitization protocols and vigilant management are crucial to improving outcomes.

Corresponding Author : Gi-Won SONG (drsong71@amc.seoul.kr)