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Initial High Anti-ABO Titer Is A Major Red Flag Of Bacterial Infection In ABO-incompatible Living Donor Liver Transplantation

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Background : Bacterial infection is a major infectious complication that causes significant mortality following liver transplantation. Previous studies have reported no difference in bacterial infection between ABO-compatible and ABO-incompatible living donor liver transplantation. The risk of bacterial infection in recipients with initial high anti-ABO isoagglutinin titers who require further desensitization has not been studied. Therefore, we aimed to analyze the risk of bacterial infection in ABO-incompatible living donor liver transplantation recipients with initial high anti-ABO isoagglutinin titer.

Methods : A retrospective study was performed with 681 adult living donor liver transplantation recipients, of which 171 cases of ABO-incompatible living donor liver transplantation recipients were categorized into the initial high isoagglutinin (n=52) or low isoagglutinin groups (n=119) based on a cut-off value of 1:256. We compared bacterial infections and postoperative bacteremia within 6 months after transplant with the ABO-compatible living donor liver transplantation group (n=510) as a control group.

Results : Bacterial infection rate in the initial high isoagglutinin group within 6 months was 53.8%, significantly higher than that in the other two groups ($P<0.001$). The initial high isoagglutinin group showed a postoperative bacteremia rate of 32.7%, which was higher than that in the other two groups ($P=0.007$). Preoperative plasma exchange (≥ 5) had a 2.9-fold higher risk of postoperative bacteremia within 6 months ($P=0.017$). The initial high isoagglutinin group had the lowest 5-year survival rate (60.9%).

Conclusions : Recipients with an initial high anti-ABO titer were more susceptible to bacterial infection and postoperative bacteremia within 6 months and had lower overall survival rates.

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