OP 3-6

Impact Of The High Baseline Anti-A/B Antibody Titer On The Clinical Outcomes In ABO-incompatible Living Donor Liver Transplantation

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Background : Recently, advances in desensitization protocol have made ABO-incompatible (ABOi) living donor liver transplantation (LDLT) feasible option in the era of organ shortage. Although, multiple sessions of plasmapheresis can successfully reduce preformed anti-A/B titer prior to transplantation, the clinical significance of baseline anti-A/B antibody titers remains uncertain. The aim of this study is to investigate the clinical outcomes of ABOi LDLT in patients with a high baseline anti-A/B antibody titer.

Methods : A total of 150 patients who received ABOi LDLT from 2010 to 2020 at two tertiary hospitals were evaluated retrospectively. Two centers used a protocol composed of rituximab, plasmapheresis, and/or splenectomy. The patients were classified according to baseline anti-A/B titer (<1:256, n=88 or ≥1:256, n=62) and compared the clinical outcomes among these groups. Graft survival rates were calculated using the Kaplan-Meier methods according to the groups.

Results : In the high baseline titer group, the number of plasmapheresis required to reach the target titer (1:16) was significantly higher (4.4±2.2 sessions) than in the low baseline titer group (1.9±1.2 sessions, P<0.001). 14 (16.4%) patients in high baseline titer group and 7 (9.2%) patients in low baseline titer group experienced postoperative titer rebound to ≥1:32, (P=0.014). The occurrence of both cellular rejection and antibody-mediated rejection did not show a significant difference (P=0.251 and P=0.147, respectively). The 1-,3-, and 5-year graft survival was not different among groups (high titer vs. low titer; 94.2%, 83.3%, and 59.0% vs. 92.1%, 86.3%, and 79.5%, P=0.326). In multivariate analysis showed that high baseline anti-A/B titer and postoperative rebound titer did not adversely affect clinical outcomes after ABOi LDLT.

Conclusions : Although, the patients with high baseline anti-A/B titer showed the higher tendency of postoperative antibody rebound, the baseline and rebound anti-A/B titer may not be as important factors for clinical outcomes of ABOi LDLT if appropriate desensitization is performed.

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