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Safety And Usefulness Of The Enhanced Recovery After Surgery (ERAS) Program In Donor Hepatectomy

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Background : Enhanced recovery after surgery (ERAS) programs have been reported to reduce the rate of postoperative complications and shorten hospital stays in liver surgery. However, while these achievements could be expected to improve the safety of donor hepatectomy, relevant research on this issue remains unclear. The aim of this study was to evaluate the outcomes and benefits after implementation of an ERAS program on donor hepatectomy in living donor liver transplantation (LDLT).

Methods : We analyzed perioperative outcomes of consecutive patients who underwent donor hepatectomy between January 2016 and October 2020. Patients were divided into the ERAS group (N=42) and the traditional care (TC) group (N=42), and propensity score matching (PSM) was used to define the independent effect of the ERAS program on donor hepatectomy.

Results : The rate of postoperative morbidity was significantly lower in the ERAS group than in the TC group (11.9 % vs. 31 %, $p = 0.033$), and the postoperative length of hospital days were significantly shorter in the ERAS group (10.2 vs. 11.4 days, $p = 0.039$). The white blood cell (WBC) count was significantly lower (12905.2 vs. 15266.7, $p = 0.002$), while albumin level (3.6 vs. 3.4, $p = 0.001$) and PT value (56.3 vs. 49.6, $p < 0.001$) were higher in the ERAS group as compared to the TC group. The postoperative pain scores ($p < 0.001$, 0.012 and 0.005 in postoperative day (POD) 1, 3, and 5) and the number of demands for analgesic in POD 3 and 5 ($p = 0.025$ and < 0.001) were lower in the ERAS group. Postoperative nausea and vomiting (PONV) (23.8 % vs. 52.4 %, $p = 0.027$) and the number of demands for antiemetic (0.4 vs. 1.2, $p = 0.012$) were significantly reduced in the ERAS group.

Conclusions : ERAS programs applied to the patients undergoing donor hepatectomy can safely and effectively reduce the incidence of complications. In addition, ERAS programs improve the donor's quality of life during hospitalization and helps them quickly return to their daily routine.

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