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Re-LDLT in chronic allograft dysfunction

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I defined chronic allograft dysfunction when recipient developed Allograft dysfunction after discharged with good graft function. In contrast, early allograft dysfunction is defined when recipient is hospitalized due to allograft dysfunction since first LT.

At the time of Re-LT, we encounter different issues According to time interval from 1st transplantation. In early retransplantation, timely Re-LT depending on recipient conditions is important for good outcomes. However, in late Re-LT, there are complicating issues related to the outcomes, such as re-appeared portal HTN, technical problem, and recipient condition,. For good outcomes, technically simple DDLT is commonly preferred. However, when Re-LDLT should be considered, technically competent surgeon is one of the most important factors.

As for the technical issues on Re-LT after LDLT, how to isolate hepatic hilum to reduce blood loss and facilitate OP procedures? What is the implanting graft type, such as DDLT, Rt or Lt lobe LDLT, to decide the level of hilar dissection, especially hepatic artery, and reconstruction methods of HV or IVC? And about the preparation of veno-venous bypass? Portal flow decompressed via PV or IMV, and Caval flow decompressed via femoral vein. When we look at the graft type of 1st LDLT, at the time of Re-LT, Rt. liver using 1st LDLT required more transfusion, but hilar structure is less distorted, and dissection is not so difficult, and critical point is dissection of Lt. side cut-surface. In case of Lt. liver using 1st LDLT, transfusion requirement is Less, but hilar structure distorted more, and the dissection is not easy-going. The critical point is dissection of Rt. side cut-surface.

Critical issues in Re-LDLT are followings. First, technical feasibility, Second, survival outcome. Preoperative conditions, compared to DDLT, adult & pediatrics, and early versus late Re-LDLT can affect on the survival outcomes. In regard to vascular reconstruction of

Re-LT such as HV, PV, HA, there are several important issues at each step, that should be always considered during preoperative image training and also intraoperative surgical dissection. Re-transplantations was 342 patients (4.1%), & Re-LDLT was 73 patients (21.3%). In Adult, 305 Re-LTs were performed and 55 cases were LDLT. In Pediatric patients, 37 Re-LTs were performed and 18 cases were LDLT.

The proportion of LDLT among Adult Re-LT was 18%. Re-LDLT after 1st LDLT was 43 cases, and LDLT after 1st DDLT was 12 cases. From now on, for the sake of convenience, I will denominate both groups as Re-LDLT. The proportion of LDLT among pediatric Re-LT was nearly 50%. It may be related to the "No difference in Technical aspects" between pediatric DDLT & LDLT. The frequency of Re-LT according to time-period ranged from 3.4% to 4.3%. 3rd Re-LT was performed in 19 patients / including 3 patients underwent Re-Re-LDLT. According to time period, before & after year 2011. Recently re-transplanted late group showed significantly better patients survival 64% than early group 48%. According to type of allograft dysfunction, re-transplant group from chronic allograft dysfunction showed significantly better patient survival 66% than early dysfunction group.

Compared to Re-DDLT, Re-LDLT patients showed better 5Y-survival rate, 69%, but statistically Not significant. In Re-LDLT, preoperative ward bound and negative septicemia patents showed significant better survival, 79%, & 100%. However, except 3 patients, most of the Re-LDLT patients had positive septicemia but 68% excellent survival. It might be related to timely performed Re-LDLT. Among Re-LDLT patients, no requirement of preOP hemodialysis & less than 20 points MELD group showed significantly better 5-Y survival 73% & 81% respectively.

As a conclusion, Compared to 1st LDLT, In order to achieve comparable outcome of Re-LDLT, we should 3 important factors. First, favorable recipient conditions such as not moribund status, minimal sign of perihepatic portal HTN, and chronic allograft dysfunction. Second, competent liver transplant surgeons to overcome technical obstacles. 3rd, intensive perioperative management including effective support of anesthesia and blood bank.