The Impact of Older Donor Age (≥50) on Adult to Adult Living Donor Liver Transplantation

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Background: The growing discrepancy between the number of patients listed for liver transplantation and the inadequate organ supply is a common problem in the medical community. The use of older donors has long been recognized as one of the most important prognostic factors for patient and graft survival.

Aim: To evaluate the impact of older donor age (≥50) on adult to adult living donor liver transplantation.

Methods: Subjects included patients who underwent right lobe graft-LDLT at Asan Medical Center from August 1998 to January 2008. Twenty donors were 50 years of age or older (Group O). Age twenties donors (Group Y) were selected as control group at the same periods, matched with Group O by sex, MELD score, cause of disease, respectively. Clinical parameters of both recipients and donors were analyzed retrospectively.

Results: In donors (Group O), male to female ratio was 8:12. The mean hospital stay was 14.1 days and postoperative complication rate was 15%. The mean remnant liver volume was 39.3%. In recipients (Group O), male to female ratio was 10:10 and the mean age was 47.3 years. The most common etiology was HBV related liver cirrhosis (45%). The mean MELD score was 20.3 and the mean Graft to Recipient Weight Ratio was 1.02% (vs 1.17%, Group Y, p=0.028). Mean follow up period was 20.9 months. The mean graft regeneration rate at postoperative 1 month was 80.3% (vs 86.8%, Group Y, p=0.15). In hospital mortality rate was 5/20 (25%) and the causes of death were sepsis (2), pneumonia, intracranial hemorrhage, and acute cellular rejection. The 1, 3-year survival rates of recipients were 88% and 79% (vs 100%, Group Y, p=0.06).

Conclusion: Old organs may work effectively, provided that old age donors are evaluated with routine biopsy and have the adequate graft size for recipient’s condition.