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## The Unusual Grafts For Living Donor Liver Transplantation

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**Background** : For a living-donor liver transplant, there are some alternatives to left and right lobe grafts. These include extended left liver plus caudate lobe, right anterior section, and right posterior section grafts. This study aimed to investigate unusual grafts from the perspectives of recipients and donors.

**Methods** : From 2016 to 2021, 497 patients received living-donor liver transplantation at Severance Hospital. Among them, 10 patients received unusual grafts. Three patients received extended left liver plus caudate lobe grafts, two patients received right anterior section grafts, and five patients received right posterior section grafts. All recipients and donors had their liver volumetrics and anatomy examined. We collected data on laboratory examinations, imaging studies, graft survival, and complications. A 1:2 ratio propensity score matching method was used to reduce selection bias and balance variables between the unusual and conventional graft groups.

**Results** : The mean model for end-stage liver disease score of unusual graft recipients was  $18 \pm 9.64$  and mean graft recipient weight ratio was  $0.80 \pm 0.18$ . ABO incompatibility was observed in four cases. Laboratory test results in both recipients and donors gradually normalized. Unusual and conventional grafts had similar survival rates ( $p=0.492$ ). The right and left lobe graft subgroups did not differ from each counter-conventional sub-group ( $p=0.339$  and  $p=0.695$ , respectively). The incidence of major complications was not significantly different between unusual and conventional graft recipients ( $p=0.513$ ). The complication ratio of the donors was similar to that in conventional graft ( $p=0.169$ ).

**Conclusions** : Although unusual grafts have a complex indication, they may be safe for donors and show feasible surgical outcomes for recipients.

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