Body: Introduction) Only a small number of centers have performed laparoscopic living donor hepatectomy until now especially, a right hepatectomy because the procedure can be performed only by well experienced hands in performing both laparoscopic liver surgery and liver transplantation with living donor liver grafts. 5 cases of pure laparoscopic living donor right hepatectomy for adult LDLT were analysed.

Methods) A total of 274 liver donors underwent a right liver procurement from November 2014 to August 2015. Among them, 5 pure laparoscopic living donor right hepatectomies for adult LDLTs were performed at the Asan Medical Center. The selection criteria for pure laparoscopic living donor right hepatectomy as follows; a single, longer right hepatic artery, portal vein, bile duct, and the fewer right inferior hepatic vein.

Results) The mean graft volume was 546±25 gm. The mean operative time and estimated blood loss were 478±40.4 mins and 224±33.6 ml, respectively. The mean hospital stay was 7.2±0.44 days. There was no morbidity and mortality. In recipient side, the mean GRWR was 0.90±0.08 and the mean hospital stay was 18.5±3.78 days. There was no morbidity and mortality as well.

Conclusions) Pure laparoscopic living donor right hepatectomy was feasible and safe in highly selected patients. The laparoscopic approach for graft procurement in living donors should be performed in selected individuals with favorable anatomy as well as by teams with expertise in both laparoscopic liver surgery and LDLT.