Introduction
There was no consensus on right posterior section (RPS) graft as a routine option for adult living donor liver transplantation (LDLT). The main reason for it was that the vascular pedicles of the RPS graft which was the second order branches were complicated. And there was no deep and detailed description of the patterns of the 2nd, 3rd portal branch in RPS. The present study is an attempt to describe the patterns of the 2nd, 3rd portal branch in RPPV.

Methods
Between November 2008 and January 2017, a total of 106 preoperative liver multi detector-row computed tomography (MDCT) images were obtained from the donor and the 3D images were reconstructed by SYNAPSE VINCENT medical imaging system. The patterns of the 2nd, 3rd portal branch of the RPPV were investigated using SYNAPSE VINCENT medical imaging system.

Results
We classified the RPPV into four types. Type A: the RPPV have a common trunk (more than 5mm) with two main 3rd order branch (36 cases, 34%); Type B: there was no common trunk with two main 2nd order branch (16 cases, 15%); Type C: there was one major common trunk with multiple 3rd order branch (48 cases, 45.3%); Type D: the right posterior section have sliding branches to/from anterior portal vein (6 cases, 5.7%). The median length of the type A portal trunk was 12.35mm (range 5.0mm-28.7mm).

In the present study, there were 16 cases of right posterior sector (RPS) graft which were selected by volumetry-Based criteria. There was only one RPS graft has multiple portal veins opening.

Fig.1 Our group finding for conventional portal vein type :

Fig. 2 Novel classification of Right posterior portal vein (RPPV)

Type A: Common trunk (5mm) with two main 3rd order branch.
Type B: No common trunk with two main 2nd order branch.
Type C: One major common trunk with multiple 3rd order branch.
Type D: Sliding branch to/from anterior portal vein.

![Type A](image1)
![Type B](image2)
![Type C](image3)
![Type D](image4)

Conclusion
A deep and detailed description of the patterns of the 2nd, 3rd portal branch in RPS is helpful for selection of RPS graft. This study approved that the right posterior sector anatomy is not complicated on the aspect of novel RPPV type.