Introduction

The Glission pedicle of anterior section is complexity and there was no detailed description on patterns of the 3rd order of Glission branch. This presentation is attempt to describe the patterns of the 3rd order of Glission branch in right anterior section with SYNAPSE VINCENT 3D and it was used to navigated segmentectomy.

Methods

A total of 106 preoperative multi detector-row computed tomography (MDCT) images were obtained from the donors of adult living donor liver transplantation and the 3D images were reconstructed by SYNAPSE VINCENT medical imaging system. The patterns of the 3rd order of Glission branch in right anterior section were investigated using SYNAPSE VINCENT medical imaging system.

Results

The finding for the conventional portal vein (PV) type in the present study was that: 88 cases (83%) had classical PV branching pattern (type 1); 6 cases (5.7%) had a trifurcation of the PV (type 2) and 12 cases (11.3%) had a right anterior PV from the left PV (type 3). After analysis the patterns of the 3rd order of anterior Glission pedicle, we classified the right anterior Glission pedicle into four types. Type A: cranial-caudal type (49 cases, 46.2%); Type B: ventral-dorsal type (14 cases, 13.2%); Type C: Radial type (37 cases, 34.9%); Type D: The right anterior Glission pedicles have sliding branch to/from posterior branch (6 cases, 5.7%).

Type A cranial-caudal type (49 cases, 46.2%)

The 3rd order portal branch of anterior portal pedicle have two or more branch and they go to the cranial-caudal direction.

Type B ventral-dorsal type (14 cases, 13.2%)

The 3rd order portal branch of anterior portal pedicle have two or more branch and they go to the ventral-dorsal direction.

Type C Radial type (37 cases, 34.9%)

The 3rd order portal branch of anterior portal pedicle have multiple branches and they go to the radial direction.

Type D The right anterior Glission pedicles have sliding branch to/from posterior branch (6 cases, 5.7%)

The 3rd order portal branch of anterior portal pedicle comes from posterior portal pedicle.

Conclusion

The detailed description of the 3rd branch of anterior Glission pedicle enriched our understanding of Couinaud segmental anatomy. Preoperative SYNAPSE VINCENT 3D is helpful for anatomic evaluation of liver resection especially segmentectomy.