Background: Laparoscopic major hepatectomy remains a challenging procedure. In the case of giant tumors in the right liver, conventional approach (complete mobilization of the right liver before parenchymal transection) could be dangerous during mobilization because of large volume and weight. We present the case of a pure laparoscopic right hepatectomy for a giant hemangioma using an anterior approach.

Methods: We achieved the informed consent with this patient and approved by the Ethics Committee of the Asan Medical Center. Giant hemangioma ($13 \times 11 \times 14$ cm) was located in right liver. After glissonean approach [5], Pringle maneuver was performed during the hepatic parenchymal transection. For the transection, the Cavitron Ultrasonic Surgical Aspirator was used. Small hepatic vein branches along the middle hepatic vein and small glissonean pedicles were sealed and divided with a THUNDERBEATTM (Olympus), which is the device with integration of both bipolar and ultrasonic energies delivered simultaneously. iDriveTM Ultra Powered Stapling device (Medtronic) was used for division of right glissonean pedicle and large hepatic veins. Hemangioma was removed through the lower abdominal transverse incision using the endo-bag. This technique has the advantage of avoiding excessive bleeding caused by avulsion of the hepatic vein and caval branches, iatrogenic tumor rupture.

Results: By means of the anterior approach, pure laparoscopic right hepatectomy was performed successfully without intraoperative complications and transfusions. The operation time was 202 min, and the estimated blood loss was less than 150 ml. On postoperative day 3, computed tomographic scan showed no pathological findings. The patient was discharged on postoperative day 5 without complications. Laparoscopic approach has good results because of the view with magnification enabling meticulous hemostasis and the small wounds that give patients less pain.

Conclusions: The authors recommend that the laparoscopic anterior approach is safe and feasible for right hepatectomy, even for giant tumors.