**Introduction**

Associating liver partition and portal vein occlusion for staged hepatectomy (ALPPS) has been introduced recently as a new surgical technique to increase future liver remnant (FLR) in patients with marginal liver volume contemplating for major liver resection. We hereby report our experiences of two case of ALPPS procedures. The first case concerns simultaneous ALPPS and colorectal surgery for patient with extensive bilobar colon cancer liver metastases and a small predicted FLR. The second case concerns a patient with huge mass larger than 15 centimeters who underwent an ALPPS procedure.

**Case 1**

An otherwise healthy and asymptomatic 68-year-old male patient was referred to our hospital with a synchronous hepatic metastasis of the left colon cancer. The initial image studies showed seven metastases in the right lobe of liver and two metastases in the left lobe (Fig. 1). The gastroenterology department planned to conduct a combination of Bevacizumab and FOLFRIRI (5-fluorouracil, leucovorin, and irinotecan) therapy. After 4 months, the size of hepatic metastases were decreased, the largest one measured 3.5 x 3 cm (Fig. 2). In order to achieve hepatic clearance, a right hepatic artery and right hepatic vein were marked with vessel loops. The parenchyma was transected via demarcated line from the right extended lobe of liver. The right hepatic artery ligated and divide. The middle hepatic vein was divided during the transection, preserving the right hepatic vein and left hepatic vein. During the first stage ALPPS procedure, the blood loss was 1500 mL.

The total liver volume (TLV) was 1,536 cc and the volume of the left lobe, the FLR volume, was 340 cc (22%). Therefore, we decided to achieve sufficient hypertrophy of the left hemihepatectomy with partial hepatectomy in left lobe was necessary.

**Case 2**

A 50-year-old female patient with colorectal liver metastasis underwent ALPPS procedure. Three weeks after the last cycle of chemotherapy, the patient was discharged. CT volumetric on day 7 after first stage revealed 35% FLR, therefore we performed second stage ALPPS on day 8 after first stage ALPPS (Fig. 5). There were no intraoperative complications, and the blood loss was less than 50 mL. The postoperative histology revealed seven metastatic adenocarcinoma, and largest one was 5.5 cm x 3.3 cm (Fig. 6). The postoperative course was uneventful and the patient was discharged 28 days after the first stage ALPPS procedure.

**Case 3**

A 58-year-old male patient with a large hepatocellular carcinoma and rectal cancer underwent ALPPS procedure. Histopathology confirmed a 17 cm x 14 cm x 11 cm, probably metastatic hepatoid adenocarcinoma from stomach, and presence of vascular invasion (Fig. 9). After the second procedure, the patient developed moderate ascites, mild elevation of serum bilirubin, 3.51 mg/dl, and mild prolongation of prothrombin time, 21.1 sec. The postoperative course was uneventful and the patient was discharged 23 days after the first procedure.

**Case 4**

A 69-year-old male presented with epigastric discomfort and weight loss. He underwent radical subtotal gastrectomy because of stomach cancer two years ago. The postoperative histology was advanced gastric carcinoma, and histologic type was hepatoïd adenocarcinoma. The cancer stage was T2N0M0, stage I. After the second procedure, the patient developed moderate ascites, mild elevation of serum creatinine, 1.07 mg/dl, and mild prolongation of prothrombin time, 21.1 sec. The postoperative course was uneventful and the patient was discharged 23 days after the first procedure.

**Conclusion**

ALPPS procedure is a good alternative for patients who need liver resection future liver remnant is expected to be low.