

Oral Presentation II

II-1

Effect of Preoperative Portal Vein Embolization in Patients with Klatskin Tumor

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Research Purpose: Portal vein embolization (PVE) is often used to increase future liver remnant (FLR) in patients who are expected to undergo major hepatectomy with small FLR. Although Klatskin tumor usually needs more extensive hepatectomy and majority of patients have abnormal liver function, indicated liver volume criteria for PVE and its clinical usefulness are not well established. The objective of this study is to explore the change of liver volume and function before and after major hepatectomy, and to evaluate the effect of PVE in patients with Klatskin tumor

Materials and Methods: Data were collected from patients who underwent major hepatectomy with a diagnosis of Klatskin tumor at Seoul National University Hospital from 2005 to 2010. Radiologic image and clinicopathologic characteristics including liver function tests were analyzed.

Results: Among 163 biliary tract cancers involving hepatic hilum, 82 patients underwent hepatectomy and 49 of them were right sided hepatectomy. Of these, 33 patients with preoperative FLR less than 30% were included for further analysis. The study subjects were at mean age of 64.9 years, and male to female ratio was 2 to 1. The study population included 11 PVE (33.3%), and 8 right trisectionectomy (24.2%). PVE was more often performed in patients with planned right trisectionectomy (54.5% vs. 13.2%, $p=0.009$), but total liver volume (1393.8 vs. 1425.4 ml, $p=0.750$) or FLR (20.8 vs. 22.4%, $p=0.260$) revealed no significant difference in PVE or non-PVE group. PVE group showed mean of 19.3% increase in FLR (288.1 vs. 347.8 ml, $p=0.068$) after mean of 15.8 days after PVE. Preoperative FLR was higher in PVE group than non-PVE group (FLR 27.2 vs. 22.4%, $p=0.023$). There was no dif-

ference in postoperative liver hypertrophy ratio (PVE:non-PVE=234.4 vs. 203.9%, $p=0.179$), and volume (PVE:non-PVE=662.6 vs. 627.8 ml, $p=0.588$) after 1 week of operation. Liver function blood tests remained unchanged after PVE, increased at postoperative day 1, and recovered to preoperative level at postoperative day 7. This pattern was not statistically different between PVE and non-PVE group. There was no severe PVE related morbidity except 4 patients (36.4%) with moderate degree of fever after PVE. Postoperative morbidity (63.6 vs. 31.8%, $p=0.136$) and mortality (18.2 vs. 0%, $p=0.104$) rates were comparable in PVE and non-PVE group. Initial FLR was less than 20% in 10 patients (30.3%). Postoperative liver hypertrophy ratio was correlated with initial FLR ($R^2=0.255$, $p=0.003$). PVE did not have significant impact on liver hypertrophy in patients with initial FLR of less than 20% (258.1 vs. 218.6%, $p=0.326$) or higher than 20% (220.9 vs. 198.5%, $p=0.291$).

Conclusions: Preoperative PVE increased FLR of 19.3% in patients with Klatskin tumor. However, postoperative liver hypertrophy ratio, final liver volume, or liver function tests were not affected by PVE, even in patients with initial FLR of less than 20%. Preoperative PVE in Klatskin tumor has minimal clinical effect.

II-2

Clinicopathologic Analysis of Extrahepatic Bile Duct Cancer with a Microscopic Positive Ductal Margin

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Background and Aims: Although reported 5-year survival rates of extrahepatic bile duct cancer lie between 20-30%, the survival rate of that with microscopic positive resection margin is unclear. The objectives of this study were to analyze the clinicopathologic features of extrahepatic bile duct cancer with a microscopic positive ductal margin after surgical resection and identify prognostic factors associated with survival.