

marker in patients with hepatocellular carcinoma underwent liver resection. However, this procedure did not performed routinely due to invasive technique. This study investigated the meaning of pretreatment hepatic venous pressure gradient and compared HVPG with other non-invasive and indirect markers of portal hypertension. **(Methods)** We prospectively measured HVPG in patients with cirrhosis. After HVPG measurement, 29 patients with hepatocellular carcinoma underwent treatment were enrolled in this study. We identified short-term outcomes according to the HVPG and clinical portal hypertension and analyzed correlation between HVPG and other markers. Additionally, we investigated the prognostic factors for high grade complication. **(Results)** Median HVPG was 11mmHg (range 4-28) and fibroscan result was 19.5k kPa (4.1-75). Twenty one patients showed evidence of clinical portal hypertension. Eight, Eight and twelve patients underwent liver resection, radiofrequency ablation (RFA) and transcatheteric arterial chemoembolization (TACE), respectively. Two, seven and twelve patients showed HVPG more than 10 mmHg in liver resection, RFA and TACE group, respectively. High grade complications were only developed in RFA and TACE group. Treatment modality was not prognostic factor for high grade complication. The only esophageal varix was found as significant prognostic factor in multivariate analysis. **(Conclusion)** Although our study has a limitation of small case number, curative treatment modalities including liver resection and RFA may be applied to patients with portal hypertension who did not develop esophageal varices.

간담체 PP-III-1

Intrahepatic cholangiocarcinoma: A Single-institution Twelve-Year experience with 144 cases

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(Purpose) Intrahepatic cholangiocarcinoma (ICC) is a rare primary malignant disease of liver. And surgical treatment is the only known cure for the disease. In this study, we examine the impact factor of tumor recurrence and recurrence pattern of tumor according to the tumor location of liver and nodal status. And we were investigated prognostic factors of ICC which influence the survival. **(Methods)** We reviewed the medical records of 144 patients diagnosed with intrahepatic cholangiocarcinoma from January 1995 to November 2012 retrospectively. Patient and tumor characteristics including oncologic outcomes were analyzed. **(Results)** Eighty-nine patients were male and 55 were female, with a mean age of 62.51±9.8 years. During the follow up period 78 (54.1%) patients were recurrence of ICC. The median disease free survival (DFS) was 57.6 months. And the median overall survival (OS) was and 57.7 months and the 1-, 3-, 5 year survival rate were 68%, 57%, 43% respectively. In univariate analysis, pTNM Stage (p=0.070), pN stage (0.000), pathologic Tumor size (pTS) (p=0.035), perivascular invasion (PVI) (0.025), intrahepatic metastasis (iHM) (0.001), satellite nodule (0.01) were statistically significantly correlation of DFS. But in multivariate analysis, only pN stage (0.029) was statistically significant correlation of DFS. And In univariate analysis, pTNM stage (p=0.005), pN stage (0.000), satellite nodule (0.000) were statistically significantly correlation of OS. But in multivariate analysis, pN stage (p=0.009), satellite

nodule ($p=0.013$) were statistically significantly correlation of OS. Perineural invasion (PNI) ($p=0.039$, odd: 2.671) was statistically significant correlation of recurrence. If the pLN (+) recurrence pattern showed a lymph node recurrence ($p=0.007$). **(Conclusion)** The pN stage ($p=0.009$), satellite nodule ($p=0.013$) were associated with overall survival. Therefore, active lymphadenectomy should be considered because up to 30% of patients will have LN metastasis. And patient with PNI need to aggressive follow up.

간담췌 PP-III-2

Bile duct resection instead of Pancreatoduodenectomy, In selected patients with proximal - to -mid common bile duct cancer

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(Purpose) In patients with proximal-to-mid bile duct cancers, conventional resection of the extra-hepatic bile duct has often resulted in tumor involvement at the proximal or distal longitudinal resection margin. Pancreaticoduodenectomy has been often suggested intention for curative resection. However, the operative risk following pancreaticoduodenectomy is not negligible in patients at high operative risk such as elderly patients with major co-morbidities. **(Methods)** We retrospectively reviewed from February 2005 to December 2009, 82 patients with proximal-to-mid bile duct cancer underwent the surgical procedures (R0 resection) of Bile duct resection (32 cases) or pancreaticoduodenectomy (50 cases). **(Results)** The 3-

and 5-year overall survival rate for the BDR group were 75.0% and 31.2%, for the PD group 42.0% and 18.0%, retrospectively. The BDR group and PD group did not Forward to the results significant difference in survival rate when TNM stage to match each other. The 3-/5-year disease free survival and overall survival rate were: stage Ib [BDR group (35.2/17.6% and 76.4/23.5%) PD group (33.3/16.7% and 50.0/25.0%) ($P=0.383$ and 0.435)], stage IIb [BDR group (37.5/25.0% and 12.5/37.5%) PD group (21.7/4.3% and 30.7/15.3%) ($P=0.554$ and 0.481)]. **(Conclusion)** BDR can be performed as an alternative procedure for patients with proximal-to-mid bile duct cancer in selected.

간담췌 PP-III-3

Preoperative C-reactive protein as a prognostic factor for recurrence after surgical resection of biliary tract cancer

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(Purpose) C-reactive protein (CRP) belongs to the family of acute phase proteins and its concentration changes in response to injury, infection and neoplasia. CRP has been identified to be associated with cancer development and progression. However, the role of CRP affecting tumor recurrence are less well defined in biliary tract cancer. Therefore, the aim of this study was to determine the clinical importance of CRP in terms of recurrence of biliary tract cancer after surgical resection. **(Methods)** From April 2006 to February 2013, 64 patients underwent curative resection for biliary tract cancer were reviewed. Demographics and tumor characteristics were evaluated retrospectively by review of a clinical database and review of pathological reports. **(Results)** The study

group comprised 41 men and 23 women, with a mean age of 61.0±10.7 years. Clinical diagnosis of these patients were intrahepatic cholangiocarcinoma (n=6), hilar cholangiocarcinoma (n=10), extrahepatic cholangiocarcinoma (n=19), gall bladder cancer (n=9) and ampullar cancer (n=20). Median follow-up was 32 months. Recurrence-free survival at 1-, 2- and 5-years were 76.3%, 64.7% and 55.4%. In the univariate analysis, high T stage, poor tumor differentiation, the presence of lymphatic invasion and high CRP level (>3.0 mg/l) were significant risk factors for recurrence. The multivariate analysis showed high CRP level (>3.0 mg/l) to be independent risk factors for tumor recurrence (p=0.029, HR 2.994, 95% CI 1.120-8.001). **(Conclusion)** Preoperative CRP level by primary tumor showed a significant association with recurrence in patients with biliary tract cancer.

간담췌 PP-III-4

10-Year experience of surgical resection with ampulla of vater malignancy in a single institution: Surgical and oncologic results

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(Purpose) Ampulla of vater cancer is known to show relatively good prognosis than other peri-ampullary malignancies. We performed surgical resection more than twenty patients with ampulla of vater cancer annually. We evaluated our surgical and oncologic outcomes for 10-years consecutive **(Methods)** All patients who underwent surgical resection for ampulla of vater malignancy at Yonsei University Severance Hospital between Jan 2003 and

Dec 2012 were studied. Medical records were retrospectively reviewed and all patients were classified as staging by 7th AJCC classification system. Surgical and oncologic results were evaluated including perioperative morbidity, mortality and overall 5-year survivals. **(Results)** Between January 2003 to December 2012, 187 patients underwent surgical resection with ampulla of vater cancer. The mean age of the patients was 60.0 + 10.3 years, with 57% being male and 43% female. PPPD was performed in 90.1%, conventional Whipple in 4.3%, and transduodenal ampullectomy in 5.6%. Pathologic staging was identified as stage IA 19.3%, stage IB 22.5%, stage IIA 17.1%, Stage IIB 28.3%, Stage III 1.6%, and stage IV 2.1%. The overall 5-year survival for all patients was 57%, and 5YRS by each stage were 93% in stage I, 72.6% in stage II, 37.3% in stage III and 10.3% in stage IV disease **(Conclusion)** Ampulla of vater cancer showed relative good oncologic outcome with low significant complications in our experience. Furthermore In selective cases, transduodenal ampullectomy can be safe treatment option for early lesions. Further study is needed for make a treatment guidelines of ampulla of vater malignancy.

간담췌 PP-III-5

Surgical outcome and prognostic factors in patients with primary gallbladder carcinoma

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(Purpose) Gallbladder cancer, which is common malignancy of billiary tract, is always associated with an unfavorable prognosis, and the clinical outcome has not improved much. This study was con-

ducted to evaluate outcomes with gallbladder cancer according to the type of Surgery, and the prognostic factors for survivals. **(Methods)** One hundred and six patients with primary gallbladder carcinoma, who underwent operation for the purpose of curative resection between January 1999 and June 2012 in the Department of Surgery, Gachon University Gil Medical Center, were reviewed retrospectively. **(Results)** Among 106 patients, curative resection was achieved in 75 (70.8%). The cumulative 1-, 2- & 5-year survival rates of primary gallbladder carcinoma patients were 93.4%, 80.9% and 63.0%, respectively. Radical resections including extended cholecystectomy had more beneficial to the long term survival of patients. The 5-year survival rate in patient who underwent curative resection (56.9%) was significantly higher than in those who underwent palliative resection (0%, $p=0.0003$). Multivariate analysis revealed that curative resection, preoperative CA19-9, T-stage, N-stage and differentiation of histology were independently significant prognostic factors. **(Conclusion)** Curative resection and early detection of patients with primary gallbladder carcinoma were the most important factors for long term survival of patients.

간담췌 PP-III-6

Cluster hepaticojejunostomy is a useful technique enabling secure reconstruction of severely damaged hilar bile ducts

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(Purpose) Secure reconstruction of severely damaged multiple hepatic ducts from tumor invasion or

iatrogenic injury is very difficult. If percutaneous or endoscopic biliary stenting fails, one or more percutaneous transhepatic biliary drainage (PTBD) tubes should be kept until death. To cope with such a difficult situation, we devised a unique surgical technique of cluster hepaticojejunostomy, which can be coupled with palliative bile duct resection. **(Methods)** Our technique of cluster hepaticojejunostomy consisted of placement of multiple internal biliary stents and single wide porto-enterostomy to the surrounding tissue. **(Results)** A preliminary trial was applied to 6 patients. Five perihilar cholangiocarcinoma patients undergoing palliative bile duct resection received this procedure. Follow-up PTBD tubogram and hepatobiliary scintigraphy were performed at 2 weeks after Surgery, and then PTBD tubes were removed. No patient showed surgical complication and the 6-month patency rate of clustered hepaticojejunostomy was estimated as 100%. Another one patient with laparoscopic cholecystectomy-associated major bile duct injury also received this procedure and no biliary complication occurred for first 3 years to date. **(Conclusion)** Based on the results of this preliminary study, our cluster hepaticojejunostomy appears to be a useful surgical technique enabling secure reconstruction of severely damaged hilar bile ducts.

간담췌 PP-IV-1

Enucleation of pancreatic neoplasms

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(Purpose) Standard resections for benign and borderline neoplasms of the pancreas are associated with a significant risk of postoperative morbidity and long-term functional impairment, whereas enuclea-