as first-line treatment and 21 patients with HAIC as alternative treatment. There was no significant difference between two groups in tumor stage, portal vein thrombosis (PVT) invasion, extrahepatic metastasis, ECOG performance status, Child-Pugh score, and alpha-fetoprotein (AFP) level. All patients had no systemic previous chemotherapy. Sorafenib was given at 400 mg twice-daily doses. For HAIC, daily cisplatin (7 mg/m² on Days 1-5) and 5-fluorouracil (170 mg/m² on Days 1-5) were infused repeatedly every 4 weeks via an implantable port system. The primary object was to assess overall survival (OS) and secondary objective were to evaluate overall response rate (ORR), progression free survival (PFS) and toxicity.

Result: Median overall survival (OS) was 4.9 months (95% CI, 3.4-6.4) in sorafenib and 7.3 months (95% CI, 4.5-10.2) in HAIC (**p=0.599**). Median PFS was 2.0 months (95% CI, 1.96-2.05) vs 3.0 months (95% CI, 1.98-4.02) for sorafenib and HAIC, respectively (**p=0.303**). ORR (objective response rate) and disease control rate (DCR) for sorafenib were 10.0% and 35.0% vs. 19.0% and 38.1% for HAIC (**p=0.413; DCR, **p=0.837**). Patients treated with HAIC showed more frequent grade 3/4 neutropenia (23.8% vs 0% for sorafenib) and two severe duodenal ulcers, while sorafenib therapy showed grade 3/4 hand-foot skin reaction in 10% of patients.

Conclusion: HAIC was a useful alternative treatment for advanced HCC and further prospective investigations are needed.

Keywords: HAIC, Sorafenib, Hepatic arterial infusion chemotherapy

0-063
Therapeutic effect of transcatheter arterial embolization for hypervascular hepatocellular carcinoma: web-based multicenter analysis

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Background: To evaluate the therapeutic effect of transcatheter arterial embolization (TAE) as first treatment for hypervascular hepatocellular carcinoma (HCC), using nationwide multicenter data in Korea.

Methods: 888 HCC patients who were registered in the internet homepage of primary liver cancer registry (www.plcr.or.kr) from August 2003 to August 2005 were enrolled and they were investigated till February 2007 regarding the following treatments after first TAE. The patients were divided into 3 groups according to the following treatments; TAE only, TAE+SL (any surgical resection, transplantation or percutaneous ablation followed), TAE+RC (radiation therapy or chemotherapy followed). The clinical and tumor characteristics, embolization factors and survival periods were analyzed.

Results: The 5-year survival rates of TAE in the groups of TAE only, TAE+SL and TAE+RC were 21.6%, 57.4%, and 13.1%, respectively. The independent prognostic factors were Child-Pugh classification, tumor size and modified 4th UICC stage. More selective embolization and complete embolization increased survival rates.
Conclusions: This study is the first nationwide multicenter analysis for TAE using online registration system in Korea. It shows the 5-year survival rate of the patient group treated by only TAE was 21.6% in the era of improved technique of embolization, and the group of decisive combined treatment following TAE including surgical resection, transplantation or percutaneous ablation improved survival.

Keywords: Hepatocellular carcinoma, Survival analysis, Therapeutic embolization

Risk factors for liver abscess after TACE in patient with HCC

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Background: Among the complications of TACE (transarterial chemoembolization), liver abscess is rare but potentially fatal. And liver abscesses are difficult in diagnosis due to the similarity of clinical presentation with that of post-TACE syndrome. Established risk factor of postembolization liver abscess is biliary abnormalities such as bilioenteric anastomosis and endoscopic papillotomy. However, the importance of other risk factors is not well established. The aim of this study was to find out other risk factors of liver abscess after TACE in patient with hepatocellular carcinoma (HCC).

Methods: From July 1999 to Dec 2009, 5288 patients with HCC underwent 20291 TACE procedures. Among them, liver abscess occurred in 73 patients (1.39%). Clinical characteristics of abscess group were compared with control group (1010 patients) which was randomly selected from nonabscess group. With a retrospective review of medical records, statistical significance of potential risk factors was evaluated.

Results: Univariate and multivariate statistical analysis showed that diabetes mellitus (OR 5.171, p=0.000), type 1 biliary abnormality (simple biliary abnormality, OR 4.11, p=0.044), type 2 biliary abnormality (status prone to ascending biliary infection, OR 9.1, p=0.000), gelfoam embolization (OR 3.3, p=0.000), biles duct (OR 19.9, p=0.006), or vessel injury (OR10.03, p=0.012) during TACE, tumor number (OR 1.5, p=0.025), size (OR 0.86, p=0.000) and pneumobilia (OR 6.27, p=0.067) on the pre-TACE CT were significant predisposing factors.

Conclusions: In addition to the biliary abnormality prone to ascending biliary infection, simple biliary abnormality and many other risk factors to the development of liver abscess after TACE were identified. Further study about the role of prophylactic antibiotics for high risk patients should be prospectively investigated.

Keywords: Liver abscess, chemoembolization, hepatocellular carcinoma

0-065

Clinical factors related to recurrence after hepatic arterial concurrent chemoradiotherapy for locally advanced hepatocellular carcinoma

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Backgrounds: In advanced hepatocellular carcinoma (HCC), current treatment recommendation is sorafenib in BCLC treatment guideline. But sorafenib has shown limited benefit. Median survival of advanced HCC with portal vein thrombosis (PVT) has been reported 4-6 months. But Median survival of HCC treated with localized concurrent chemoradiotherapy (CCRT) was 13.1 months. The aim of this study was to evaluate patterns of failure and clinical factors influencing treatment failure and improve treatment outcome in HCC treated with CCRT by hepatic arterial infusional chemotherapy.

Methods: Between May 2000 and August 2009, 161 HCC patients treated with CCRT were reviewed retrospectively. Median radiation dose was 45Gy in 25 fractions (range, 45-66.6 Gy). Concurrent regional chemotherapy using an intra-arterial implanted port was performed using 5-fluorouracil (5-FU). Patterns of failure were categorized into 3 groups; 1) infield failure, 2) intrahepatic-outfield failure, and 3) extrahepatic failure. Clinical factors influencing each failure were analyzed using Kaplan-Meyer method. Multivariate analysis was performed using Cox-proportional hazard model.

Results: The median age was 55 years (range, 14-79 years) and male to female ratio was 7:1. Most patient had Child-Pugh A (92%). Median follow-up was 21 months. Infield failure, intrahepatic-outfield failure, and extrahepatic failure was observed in 47 patients (30%), 67 patients (42%), and 66 patients (42%), respectively. For infield failure, median progression free survival (PFS) of patients treated with CCRT as initial treatment has not yet been reached, compared with that in patients with previous treatment before CCRT. (Median PFS NR vs. 17 months, p=0.001) For intrahepatic-outfield failure, pretreatment alpha-fetoprotein (AFP) >500 ng/mL was associated with high incidence of this failure (Median PFS 22 months vs. 10 months, p=0.006). For extrahepatic failure, Age <55 years and pretreatment AFP > 500 were significant factors for this failure. And these were also significant in multivariate analysis. Median PFS has not been reached in age < 55 years and pretreatment AFP ≤ 500 ng/mL, compared with 10 months in age >55 years (p=0.011) and 14 months in pretreatment AFP > 500 ng/mL (p=0.042).

Conclusion: In HCC patients treated with CCRT, pretreatment AFP>500 ng/mL was significant factor influencing intrahepatic-outfield failure and extrahepatic failure. And age at diagnosis <55 years increased incidence of extrahepatic failure. The previous other treatment before CCRT was associated with infield failure.

Keywords: Hepatocellular carcinoma, concurrent chemoradiation therapy; patterns of failure; related clinical factors