The Effect of Concurrent Chemoradiotherapy in the Treatment of Locally Advanced Biliary Tract Cancer

Department of Internal Medicine, Institute of Gastroenterology, Department of Surgery*, Department of Radiology†, Department of Radiation Oncology‡, Yonsei University College of Medicine, Seoul, Korea

Seung-Woo Yi, Seung-Woo Park, Kyung-Sik Kim*, Mi-Suk Park†, Jinsil Seong‡, Si-Young Song, Jae-Bock Chung

(Background) Biliary tract cancer (BTC) is aggressive cancer with median survival time rarely exceeding 6 months. According to NCCN (National Comprehensive Cancer Network) Clinical practice Guidelines in Oncology 2007, the standard treatment for locally advanced unresectable BTC is concurrent chemoradiotherapy (CCRT) or best supportive care (BSC). The primary objective of this study was to evaluate the response rate and overall survival of CCRT in patient with locally advanced unresectable BTC compared with BSC; secondary objective included toxicities.

(Methods) 1787 BTC patients were retrospectively enrolled from January 1995 to December 2006 at Severance Hospital. Among those, 211 eligible locally advanced unresectable BTC patients were investigated; GB cancer 83 patients, Intrahepatic CC 100 patients, Extrahepatic CC 28 patients. Response was defined according to RECIST criteria. Survival was calculated from initiation of diagnosis until death.

(Result) Of 109 patients evaluable for efficacy, overall response rate was 20.9%. The median overall survivals were 10.30 months (range, 1.93-76.23) in CCRT group and 3.60 months (range, 0.07-22.20) in BSC group (p<0.01). In a subgroup analysis, median overall survivals were 20.00 months in CCRT and 3.67 months in BSC (p<0.01) for extrahepatic CC group, 11.37 months in CCRT and 2.93 months in BSC (p<0.01) for intrahepatic CC group, and 6.63 months in CCRT and 3.93 months in BSC (p=0.19) for GB cancer group. The most common hematologic toxicities of grade 3/4 were thrombocytopenia (11.8% of patients) and neutropenia (7.2%). The most common nonhematologic toxicities of grade 3/4 were nausea (5.5%), vomiting (1.8%) without treatment-related mortality.

(Conclusion) Patients with locally advanced biliary tract cancer who received CCRT based with 5-fluorouracil (5-FU) or gemcitabine showed better survival than those who received best supportive care. Moreover, gemcitabine-based or 5-FU-based CCRT showed similar survival advantages.