

Predicting Factors of Curative Resection and Improved Surgical Outcome in Surgically Treated Patients with Klatskin Tumor: Single Center Experience

Departments of Surgery¹ and Internal Medicine², Yonsei University College of Medicine, Department of Surgery, Korea University College of Medicine³, Seoul, Korea

Min Soo Cho¹, Sung Hoon Kim¹, Sae Byeol Choi³, Seung Woo Park², Jin Sub Choi¹, Woo Jung Lee¹, Jae Bock Chung², Kyung Sik Kim¹

Background and Objectives: Recently, improved outcomes have been reported after surgical resection. Complete tumor resection (R0 resection) is important for long-term survival. In this study, we have investigated to compare survival and recurrence rates of patients treated with radical surgical resection versus palliative resection and secondly to identify parameters that influence outcome.

Methods: From January 2000 to June 2008, 89 patients underwent surgical treatment for Klatskin tumor. The clinicopathological parameters and surgical outcome were investigated retrospectively.

Results: Of the 89 patients, there were 55 men and 34 women, with mean age of 61.4 years (range, 34~82 years old). The median follow-up was 23.9±20.3 months. A total Of 89 patients, 62 (69.7%) patients underwent curative resection and 27 (30.3%, R1=16 R2=11) patients underwent palliative resection. Overall survival rates for the patients who underwent curative resection were 28.8% at 5 years. 3-year overall survival rates of R0, R1 were 39.6%, 21.4% respectively ($p=0.191$). Median overall survival time for R0, R1 were 26.7 months, 18 months respectively. Median recurrence-free survival time for R0, R1 were 58 months, 18 months respectively. 2-year recurrence-free survival rates for R0, R1 were 63%, 25% respectively ($p=0.354$). Total bilirubin level less than 3.0 mg/dl just before the operation, in poorly differentiated tumor and albumin level were significant independent predictors of overall survival by univariate analysis. However, total bilirubin level just before the operation was only significant independent predictors by multivariate analysis ($p<0.01$, OR; 4.299, >3 mg/dl vs. <3 mg/dl). Total bilirubin level just before the operation was also significant independent factors of recurrence by multivariate analysis ($p=0.028$, OR; 2.659). Combined caudate lobectomy and perineural invasion were significant independent predictors of the status for surgical resection margin by multivariate analysis ($p=0.022$, OR; 0.188

vs. $p=0.018$, OR; 13.063). Lymph node metastasis, Bismuth type, Operation method, Portal vein embolization, and tumor marker were not significant predictors of surgical outcome.

Conclusions: Total bilirubin level just before operation, and combined caudate lobectomy were found to be significant predictors of surgical outcome, thus the surgeon should make an effort to obtain good surgical outcome by performing preoperative biliary decompression and extensive surgery.