

U/mL: 19 pts, 100~200 U/mL: 8 pts, 200~500 U/mL: 5 pts, >500 U/mL: 14 pts) and 31 who were within normal range (<37 U/mL). And after operation, there were there were 30 patients who had elevated CA19-9 (37~100 U/mL: 18 pts, 100~200 U/mL: 5 pts, 200~500 U/mL: 2 pts, >500 U/mL: 5 pts) and 47 who were within normal range. of 46 patients who had elevated CA19-9 before surgery, 23 patients were within normal range after operation. There were 13, 7, 1, 2pts who were declined to normal CA19-9 levels in 1 week, 1 month, 2 month, >3 month and 1, 2, 3, 17pts who had <25, 25~50, 50~75, >75% decline rates (pre CA19-9-post CA19-9/pre CA19-9), respectively. In patients with normal preoperative CA19-9, 15 of 31 patients had recurred and there were 3 pts who had elevated CA19-9 levels (37-100 U/mL: 2 pts, >100 U/mL: 1 pts) and 12 who were with in normal range after recurrence. And in patients with elevated preoperative CA19-9, 29 of 46 patients had recurred and there were 21 pts who had elevated CA19-9 levels (37-100 U/mL: 10 pts, >100 U/mL: 11 pts) and 8 who were with in normal range. On survival analysis, the cumulative 1-, 3-, and 5-year survival rates were 72.3, 51.5, and 31.1%, respectively and the median survival time (MST) was 37 months (range, 26.1-47.9 months). preoperative CA19-9 <100 U/mL (MST, 47 vs. 22 months; p=0.008), postoperative CA19-9 <100 U/mL (MST, 44 vs. 6 months; p=0.001), decline rate >50% (MST, 47 vs. 28 months; p=0.018) were the strongest and most favorable prognostic factors. However, each recurrence CA19-9 levels and decline periods (time to reach normal CA19-9 levels) were no significant difference in survival. Moreover, in patients with elevated or normal preoperative CA19-9, there were no significantly difference between elevated recurrence CA19-9 levels and normal levels in clinical or pathological factors.

Conclusion: Preoperative CA19-9 <100 U/mL, postoperative CA19-9 <100 U/mL, decline rate >50% may possibly serve as surrogate marker for good prognosis in resected intrahepatic cholangiocarcinoma. However, recurrence CA19-9 levels can not be reliable marker for predicting patient's recurrence.

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Surgical Outcomes of 230 Resected Hilar Cholangiocarcinoma in a Single Institution

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Research Purpose: There have been few reports of surgical outcomes in hilar cholangiocarcinoma especially focused on the surgical modalities and radicality. We reviewed the surgical experiences of hilar cholangiocarcinoma in a single center focused on surgical modalities, radicality, survival rates and independent prognostic factors.

Materials and Methods: Between 1995 and 2010, 230 patients who underwent surgical resection for hilar cholangiocarcinoma were enrolled. Patient demographics, clinical variables, Bismuth-Corlette types of tumor, radicality according to operation methods as well as survival rates were analyzed.

Results: Patients with a type I or II tumor tended to undergo segmental bile duct resection rather than combined liver resection, and had low R0 resection rates in bile duct resection group (68.2% and 76.1%, respectively, p<0.001). Type IIIA was most common (41.7%), and R0 resection rate was 90.3% in left-sided hepatectomy for type IIIB and 84.4% in right-sided hepatectomy for type IIIA (p=0.256). Median overall and disease-free survival except for the patients of R2 resection and in-hospital mortalities were 45.0 and 22.4 months, respectively. Combined liver resection (p<0.001) and additive caudate lobectomy (p=0.003) could give more R0 resection rate than not performed. Multivariate analysis identified lymph node metastasis (p=0.001), the level of bilirubin >3 mg/dl just before surgery (p=0.003) and positive resection margin (p=0.033) as independent prognostic factors on overall survival.

Conclusions: Curative treatment can be more achieved by performing additive caudate lobectomy during combined liver resection in hilar cholangiocarcinoma. Preoperative hyperbilirubinemia above 3 mg/dL should be resolved for better survival.