Prognostic impact of perioperative CA19-9 levels in patients with resected perihilar cholangiocarcinoma

Jong Woo LEE1, Jae Hoon LEE* 2, Yejong PARK2, Woohyung LEE2, Jaewoo KWON2, Ki Byung SONG2, Dae Wook HWANG2, Song Cheol KIM2

1Department of Surgery, Hallym university sacred heart hospital, Korea
2Department of Hepatobiliary and Pancreatic Surgery, Asan Medical Center, University of Ulsan College of Medicine, Korea

Introduction: The clinical significance of perioperative level of carbohydrate antigen (CA) 19-9 in perihilar cholangiocarcinoma (PHCC) has not been well established. This study aimed to examine whether perioperative change of CA19-9 levels could predict prognosis of patients underwent surgery for PHCC.

Methods: This study included 322 patients who underwent curative resection for PHCC. Patients were divided into 3 groups; normal preoperative normal CA19-9 group (CA19-9 ≤ 37 u/ml), normalization group (preoperative CA19-9 > 37 u/ml, postoperative CA19-9 ≤ 37 u/ml) and non-normalization group (both preoperative and postoperative CA19-9 > 37 u/ml). The association of clinicopathological factors (including perioperative serum CA19-9 levels) with Overall survival (OS) was investigated.

Results: The non-normalization group (82 patients) showed significantly worse OS than normal CA 19-9 group (114) and normalization group (126) (5-year OS, 16.9%, 29.4% and 34.4%; both P ≤0.001). Cut-off points of preoperative 300 u/ml (P=0.001) and postoperative 37 u/ml (P<0.001) showed highest significant prognostic value. In the non-normalization group, patients who underwent R1 resection showed significant worse OS than those who underwent R0 resection (median OS, 10.2 versus 15.7 months; P=0.016). In multivariable analysis, factors independently associated with worse OS were lymph node metastasis (hazard ratio (HR) 2.07; P<0.001), postoperative CA19-9 >37 u/ml (HR 1.94; P<0.001), intraoperative transfusion (HR 1.74; P=0.002), advanced T stage (T3,4) (HR 1.67; P=0.006).

Conclusions: Persistent high CA19-9 level after resection of PHCC with curative intent was associated with poor OS. R1 resection was associated with poor OS especially in non-normalization group. High postoperative CA19-9 value was also independent significant prognostic factor in resected PHCC.

Corresponding Author. : Jae Hoon LEE ( hbpsurgeon@gmail.com )

Presenter : Jong Woo LEE ( hy_thename@hanmail.net )