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

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Introduction : The clinical significance of perioperatibe 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.

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