



E-005

The Impact Of Resection Margins And Adjuvant Radiotherapy On Recurrence Pattern In Hilar Cholangiocarcinoma : A Retrospective Analysis

Su Hyung PARK¹, Na Reum KIM¹, Sung Hyun KIM¹, Dai Hoon HAN¹, Kyung Sik KIM¹, Jin Sub CHOI¹, Gi Hong CHOI^{*1}

¹Division Of Hepatobiliary And Pancreas Surgery, Department Of Surgery, 연세대학교 세브란스병원, REPUBLIC OF KOREA

Background : In surgery for hilar cholangiocarcinoma, achieving a negative resection margin is crucial. However, in some cases, acquiring a negative margin may be unavoidably compromised due to various reasons, such as the inability to perform further resection or the limitation in the accuracy of frozen biopsy. This study analyzes the impact of resection margin status on disease-free survival and recurrence patterns, as well as the effect of adjuvant radiotherapy on recurrence patterns in cases of R1 resection.

Methods : A retrospective analysis was conducted on 287 patients who underwent curative resection for hilar cholangiocarcinoma at a single institution between 2000 and 2018. The patients were categorized based on margin status into three groups: clear margin, dysplastic margin, and invasive margin. Disease-free survival (DFS) and recurrence patterns were analyzed for each group. Recurrence patterns were classified into three categories: anastomosis site/liver resection margin recurrence, locoregional recurrence, and systemic recurrence. Additionally, within the invasive carcinoma group, the impact of adjuvant radiotherapy on recurrence patterns was analyzed as a subgroup analysis.

Results : There was a significant difference in DFS among the three groups (clear margin : 57.504 ± 6.11 , dysplastic margin : 33.094 ± 5.82 , invasive margin : 25.68 ± 4.04 $p < 0.01$). The recurrence patterns among the three groups showed differences in anastomosis/resection margin recurrence; (clear margin : 17/163 (10.4%), dysplastic margin : 8/29 (27.6%), invasive margin : 24/95 (14.7%) $p=0.042$) however, there were no significant differences in locoregional recurrence and systemic recurrence. Within the invasive margin group, the subgroup that received adjuvant radiotherapy exhibited a lower rate of anastomosis/resection margin recurrence compared to the group that did not receive adjuvant radiotherapy. (adj.RTx : 1/31 (3.2%) vs non-adj.RTx : 13/64 (20.3%) , $p=0.028$)

Conclusions : Achieving R0 resection in hilar cholangiocarcinoma is beneficial for improving recurrence-free survival, particularly in reducing anastomosis/resection margin recurrence. However, even with R1 resection, the administration of adjuvant radiotherapy can help reduce anastomosis/resection margin recurrence. Further research, such as prospective cohort studies, is needed to fully analyze the impact of adjuvant radiotherapy on recurrence.

Corresponding Author : **Gi Hong CHOI** (CHOIGH@YUHS.ac)