

**BP DB 2****Securing R0 margin through extended surgical approach**

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**Lecture :** In 2005, Wakai et al (Niigata, Japan) first reported a surprising clinical observation in cholangiocarcinoma that the survival probability in 11 patients with R1 margin with CIS (R1cis) was not significantly different from that in 64 patients with R0 margin. Since then, the following retrospective studies have reported the similar finding, suggesting that CIS remnant at the ductal margin may be acceptable in terms of long-term survival, which was a hot debate in Japan. However, all these studies have some obvious problems. First, the study sample involved the whole population who received resection, with any tumor stage. Second, the sample size of R1cis group was very limited, approximately 10 or so. Third, local disease relapse was not considered. Lastly, the survival figures comparing R1cis versus R0 showed the inferior survival of R1cis group, although not significant.

We hypothesized that CIS residue at the margin was a mild deteriorator of survival; therefore, the less advanced tumor, which expected a favorable survival, was used for analysis to highlight the issue. In stage 0-II (T0-2N0M0) extrahepatic cholangiocarcinoma, the disease-specific survival for 18 R1cis patients was significantly worse than that for 148 R0 patients: 35% versus 79% at 5 years ( $P=0.005$ ). In addition, seven patients with secondary R0 after additional ductal resection showed significantly better survival than those with R1cis ( $P=0.038$ ). The disease relapse rate at the positive duct margin was 33% versus 4% at 5 years ( $P<0.001$ ). These findings indicate a mild prognostic impact of R1cis, which possibly explaining the results of early studies upon R1cis (positive ductal margin with CIS). Presence of robust strong predictors (nodal metastasis, positive radial margin [invasive cancer], pancreatic invasion, and portal vein invasion, mask the impact of R1cis.

An extended surgical resection, hepatopancreatoduodenectomy (HPD), often needs to eradicate the CIS extension around the main tumor; whereas, this approach carries a high risk of mortality, with a global incidence of >10%. Therefore, HPD against CIS spreading should be carefully applied balancing the mild nature of R1cis, other prognostic factors, and patients' general condition. Aggressive resection strategy is not always a good choice.