

Supplementary Table 2. Univariate analysis of prognostic factors affecting overall survival.

| | All HR (95% CI) | pCCA HR (95% CI) | dCCA HR (95% CI) |
|---|-------------------------|-------------------------|--------------------------|
| Age | | | |
| ≤65 years | reference | reference | reference |
| >65 years | 1.66 (0.94–2.93) | 2.45 (1.07–5.64) | 1.45 (0.65–3.23) |
| pCCA | reference | - | - |
| dCCA | 0.89 (0.52–1.53) | | |
| Male | reference | reference | reference |
| Female | 0.81 (0.46–1.46) | 0.67 (0.30–1.52) | 0.95 (0.41–2.17) |
| PSC | 0.65 (0.28–1.53) | 0.99 (0.29–3.33) | 0.50 (0.15–1.67) |
| Asymptomatic/incidental diagnosis | 0.65 (0.23–1.80) | 0.97 (0.33–2.85) | 0.040 (0.00005–33.64) |
| Preoperative CA19-9 | | | |
| ≤30 U/mL | reference | reference | reference |
| >30 U/mL | 1.49 (0.86–2.60) | 0.54 (0.25–1.19) | 3.85 (1.66–8.94) |
| Preoperative ERCP | 0.65 (0.23–1.80) | 0.90 (0.27–3.03) | 0.31 (0.04–2.41) |
| Preoperative PTC | 1.07 (0.45–2.50) | 0.94 (0.37–2.35) | - |
| Vascular resection | 1.20 (0.62–2.35) | 1.39 (0.60–3.24) | 0.90 (0.27–3.05) |
| Re-resection of bile duct based on frozen section | 0.75 (0.41–1.37) | 1.27 (0.48–3.40) | 0.59 (0.27–1.29) |
| Complications, Clavien-Dindo grade | | | |
| No complications | reference | reference | reference |
| Grade 1–2 | 1.63 (0.77–3.45) | 1.31 (0.53–3.28) | 3.51 (0.70–17.58) |
| Grade 3 | 1.78 (0.72–4.37) | 2.37 (0.59–9.48) | 3.40 (0.66–17.52) |
| Grade 4 | 1.33 (0.45–3.90) | 0.59 (0.12–2.90) | 4.52 (0.68–30.00) |
| R category | | | |
| R0 | reference | reference | reference |
| R1 | 1.76 (1.03–3.03) | 1.26 (0.58–2.77) | 2.79 (1.20–6.46) |
| T category | | | |
| T1 | reference | reference | reference |
| T2 | 2.83 (0.98–8.20) | 1.70 (0.48–6.03) | 6.86 (0.84–56.00) |
| T3 | 2.23 (0.74–6.81) | 0.54 (0.11–2.71) | 8.10 (1.02–64.17) |
| T4 | 3.93 (0.85–18.13) | 2.37 (0.23–24.57) | 10.96 (0.93–129.00) |

| | All HR (95% CI) | pCCA HR (95% CI) | dCCA HR (95% CI) |
|---|----------------------------|-----------------------------|-----------------------------|
| N category | | | |
| N0 | reference | reference | reference |
| N1 | 2.61 (1.45–4.70) | 1.42 (0.63–3.18) | 5.26 (1.91–14.49) |
| Metastatic / harvested lymph node ratio >0.2 | 1.58 (0.86–2.90) | 1.06 (0.45–2.50) | 2.22 (0.89–5.5) |

pCCA: perihilar cholangiocarcinoma, dCCA: distal cholangiocarcinoma, HR: hazard ratio, CI: confidence interval, ERCP: endoscopic retrograde cholangiopancreatography, PSC: primary sclerosing cholangitis, PTC: percutaneous transhepatic cholangiography.