Distal cholangiocarcinoma. Single center analysis of overall survival and clinically relevant factors in curatively resected patients.

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Background:

Distal cholangiocarcinoma (DCC) is a malignant disease which arises from the bile duct epithelium located in the distal part between the confluence of the cystic duct and above the Ampula of Vater and represents about 20-30 % of all cholangiocarcinomas. The only potentially curative treatment modality is curatively intended surgery – pancreaticoduodenectomy (PD) with removal of the distal part of bile duct and lymphadenectomy. Most published data analyse inhomogeneous patient groups according to the primary location of biliary tract carcinoma and type of surgical treatment. The aim of the study was to calculate short-term and long-term outcomes of curative-intent surgery in distal cholangiocarcinoma patients to identify potential prognostic factors.

Material and methods:

A retrospective cohort study of 32 consecutive DCC patients treated with PD between 2009 – 2017. Clinicopathological and histopathological data were evaluated for prognostic factors using univariable Cox regression analysis. Overall Survival (OS) was estimated using the Kaplan – Meier analysis.

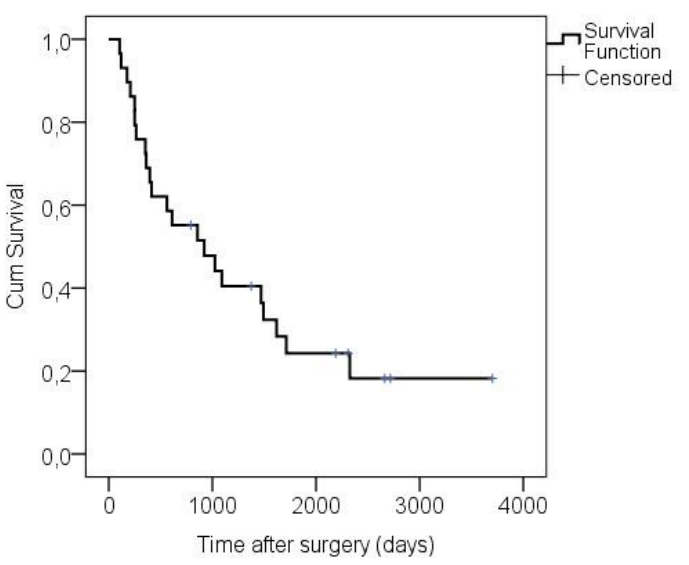

Figure 1. Overall survival of all patients after resection for distal cholangiocarcinoma estimated using the Kaplan-Meier analysis

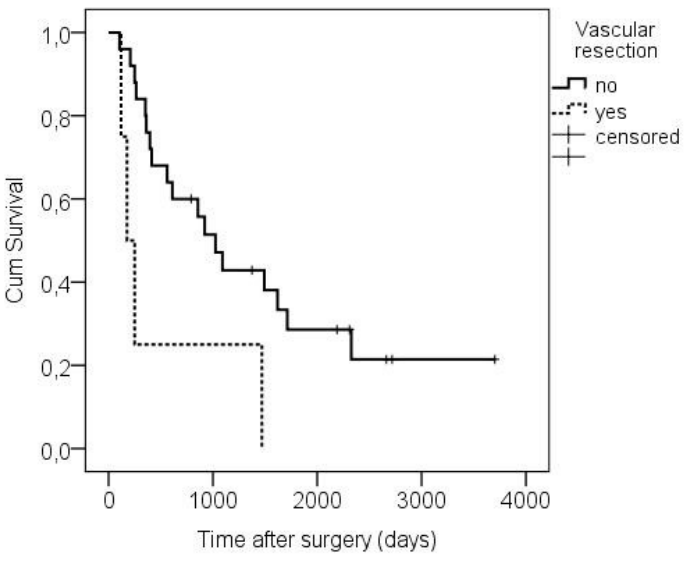

Figure 2. Overall survival stratified by performing of vascular resection estimated using the Kaplan-Meier analysis

Results:

The study comprised of 26 (81.3%) men, age of the patients was between 36 and 76 years, with a mean of 65.8 (SD 9.0) years at the time of surgery. Patients were mostly scored with a preoperative ASA score II (N= 25/32; 78.1 %), few patients had ASA I (N=3/32; 9.4 %) and ASA III (N= 4/32; 12.5%), respectively. The most common postoperative complications were POPF, wound infection and pneumonia. According to the Clavien-Dindo classification of grade 0, I, II, IIIa, IIIb, IVb have 7 (21.9 %), 1 (3.1%), 14 (43.8%), 1 (3.1%), 4 (12.5%), and 2 (6.3%) patients, respectively. The median total hospital stay was 15 (11-83) days. R0 resection was achieved in 25 (86.2%) patients. 19 patients (65.5%) received adjuvant oncological therapy. Overall survival rates at 1, 3, and 5 years were 62.5 %, 37.5 % and 21.9 %, respectively. The 90-day mortality was 9.4 %, accounting for a quarter of the first-year mortality rate. Median OS was 28.5 months. The only statistically significant prognostic factor was vascular resection which was associated with worse OS in the univariable analysis (HR: 3.644; 95%-CI: 1.179-11.216, p = 0.025). Age less than 65 years, ASA grade I/II, hospital stay less than 15 days, absence of postoperative pancreatic fistula, R0 resection, three or less positive lymph nodes, lymph node ratio less than 0.2 and adjuvant oncological therapy tended to be associated with better OS but without statistically significant relevance.

Variables	Hazard ratio	95% CI	P
ASA score III	2.134	0.700-6.505	0,183
Hospital stay ≥ 15 days	1.862	0.769-4.505	0,169
Vascular resection	3.644	1.179-11.216	0.025
R1 resection	2.205	0.723-6.724	0.165
Lymph node metastases ≥ 4	2.072	0.820-5.233	0.123
LNR > 0.20	2.282	0.932-5.586	0.071
Adjuvant therapy	0.515	0.211-1.257	0.145

Table 1. Univariable analysis of clinicopathological and histopathological risk factors on overall survival of patients after resection for distal adenocarcinoma

Conclusion:

The main factor directly influencing the survival of DCC patients are surgical complications. Surgical mortality comprises a significant group of patients, who die in the first year following pancreatoduodenectomy. Vascular resection is the most important negative factor for long-term survival.

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