

Supplementary Table 1. AJCC 7th edition TMN staging of 295 patients with pathological diagnosis of cholangiocarcinoma

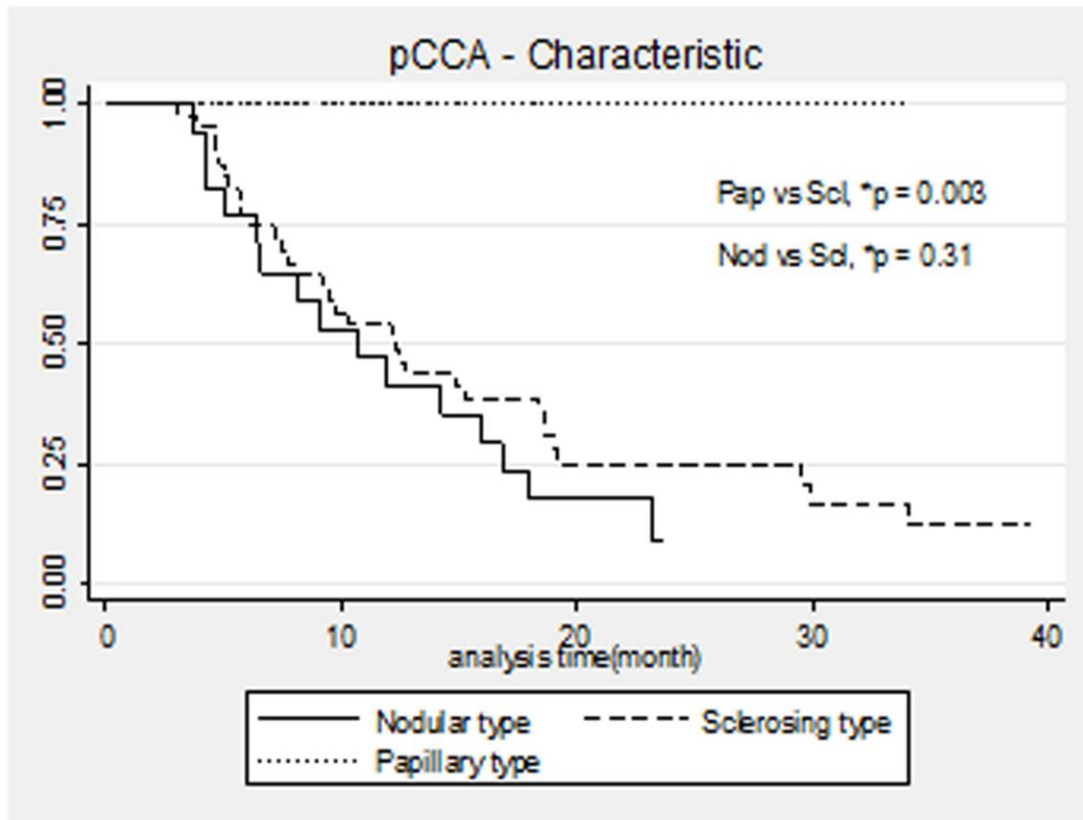
AJCC 7th edition staging						
iCCA	I	II	III	IV a	IV b	
Mass forming	19	16	17	23	35	
Periductal infiltration	10	0	0	2	3	
Intraductal	5	2	0	0	0	
Mix type	0	0	0	30	18	
pCCA	I	II	III a	III b	IV a	IV b
Nodular	0	4	2	10	3	2
Sclerosing	0	9	11	10	15	13
Papillary	3	1	0	2	1	0
dCCA	I a	I b	II a	II b	III	IV
	3	2	4	12	3	5

Supplementary Table 2. Univariate and multivariate Cox regression of long term survival (>90 days) in pCCA excluding papillary type group.

	Univariate analysis		Multivariate analysis	
	Hazard ratio [95%CI]	p-value	Hazard ratio [95%CI]	p-value
Sex (male as Ref.)	1.35 [0.52 - 3.48]	0.54		
Age	1.00 [0.97 - 1.02]	0.74		
Characteristic				
Nodular	Ref.		Ref.	
Sclerosing	1.38 [0.74 - 2.59]	0.31		
Resection status				
R0 resection	Ref.		Ref.	
R1 resection	2.74 [1.26 - 5.98]	0.01	2.17 [0.99 - 4.78]	0.054
R2 Resection	6.40 [2.66 - 15.41]	<0.001	7.97 [3.22 - 19.21]	<0.001
No resection	7.82 [2.58 - 23.70]	<0.001	4.21 [1.45 - 5.70]	0.003
Laboratory				
Bilirubin	0.99 [0.96 - 1.03]	0.65		
CEA	1.00 [0.999 - 1.004]	0.71		
CA 19-9	1.0001 [1.0000 - 1.0002]	0.01		
Pathological outcome				
No. of tumor	2.16 [0.65 - 7.15]	0.21		
Size(cm)	0.95 [0.81 - 1.12]	0.53		
Grading	1.27 [0.75 - 2.15]	0.37		
Positive margin	3.25 [1.62 - 6.52]	0.001		
Lympho-vascular invasion	1.84 [0.94 - 3.59]	0.07		
Perineural invasion	1.82 [0.94 - 3.40]	0.06		
Positive Lymph node	2.45 [1.30 - 4.62]	0.006	2.84 [1.45 - 5.70]	0.003

Note: Hazard ratios were not altered after controlling for age, sex, bilirubin level, CEA, CA19-9.

Supplementary Figure 1. K-M curves demonstrating long term survival of patients with pCCA by different character and log-rank test (n=86). *P-value for comparison across groups using log ranked test.



Supplementary Figure 2. K-M curves demonstrating long term survival of patients with dCCA by resection status and log-rank test (n=29) *P-value for comparison across groups using log ranked test

