

**Supp. Table 1 Clinicopathological characteristics of 106 patients with iCCA enrolled in the study**

<b>Clinicopathological Characteristics</b>	<b>Value (%)</b>
<b>Patient Characteristics</b>	
Median age (years)	60.0 (range, 35-82 years)
Gender (female)	44 (41.5)
HBV infection (present)	42 (39.6)
Preoperative AFP ( $\geq 9\mu\text{g/l}$ )	28 (26.4)
Preoperative CA19-9 ( $\geq 35\text{U/ml}$ )	73 (68.9)
<b>Tumor Characteristics</b>	
Tumor size ( $\geq 50\text{mm}$ )	61 (57.5)
Tumor number (multiple)	17 (16.0)
Vascular invasion (present)	28 (26.4)
Lymph node metastasis (present)	48 (45.3)
Distribution (bilobar)	65 (61.3)
Histologic differentiation (Poor)	54 (50.9)
Perineural sheath infiltration (present)	14 (13.2)
TNM stage	
I	33 (31.1)
II	15 (14.2)
III	10 (9.4)
IV	48 (45.3)
Tumor recurrence (present)	72 (67.9)

HBV: Hepatitis B virus; AFP: Alpha-fetoprotein; CA19-9: Carbohydrate antigen 19-9

**Supp. Table 2 Correlation of micro-lymphatic vessel density (MLVD) with clinicopathological characteristics in 77 patients with VEGFR-3 positive tumors**

Variable	Cases	MLVD (median (IQR))	<i>p</i> value
Age			
<60	36	13.5 (9-18.75)	0.139
≥60	41	16 (10-20)	
Gender			
Male	46	15 (10-20)	0.628
Female	31	16 (8-19)	
HBV infection			
Absent	47	17 (12-20)	<b>0.002</b>
Present	30	11 (7-17.25)	
Preoperative AFP (μg/l)			
<9	60	15 (9-19)	0.782
≥9	17	16 (9.5-20)	
Preoperative CA19-9 (U/ml)			
<35	22	14.5 (8.75-19.25)	0.799
≥35	55	15 (9-20)	
Tumor size (mm)			
<50	32	13 (7.25-19)	0.095
≥50	45	16 (10.5-20)	
Tumor number			
Single	61	15 (9-19)	0.180
Multiple	16	17.5 (10.5-21.5)	
Vascular invasion			
Absent	54	15 (9-20)	0.863
Present	23	15 (9-19)	
Lymph node metastasis			
Absent	37	12 (7-18)	<b>0.003</b>
Present	40	17 (13-20)	
Histologic differentiation			
Well or moderate	40	15 (7.25-20)	0.653
Poor	37	15 (12-19)	
Distribution			
Unilobar	30	13 (7-18)	0.074
Bilobar	47	15 (10-20)	
Perineural sheath infiltration			
Absent	65	15 (9-19.5)	0.989
Present	12	14.5 (9.25-19.75)	
Tumor recurrence			
Absent	17	7 (6-9.5)	<b>&lt;0.001</b>
Present	60	17.5 (13-20)	

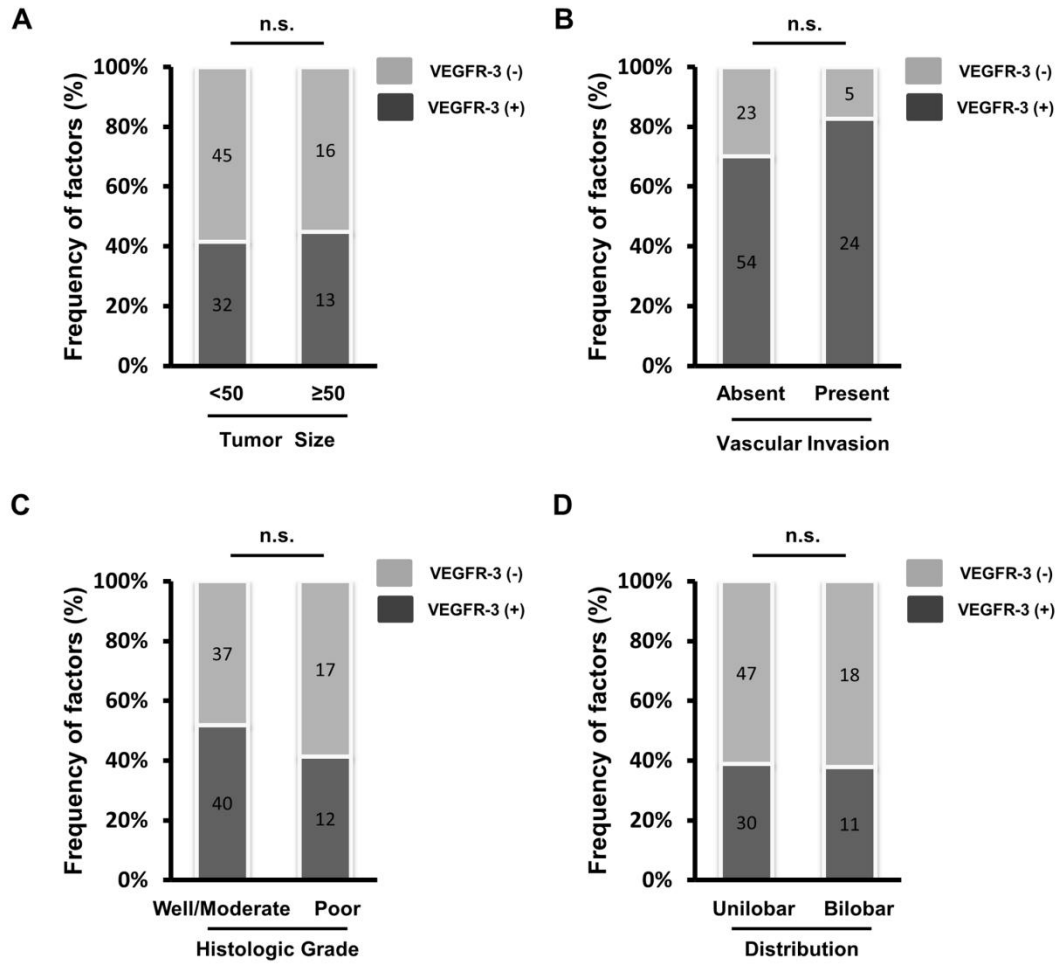
**Supp. Table 3 Univariate and multivariate analysis of prognosis factors for overall survival of patients with tumors positive expressing VEGFR-3**

Variable	Univariate analysis			Multivariate analysis		
	HR	95%CI	<i>p</i> value	HR	95%CI	<i>p</i> value
Age (<60 vs. ≥60)	1.137	0.677-1.909	0.627	-	-	-
Gender (Male vs. Female)	1.546	0.899-2.660	0.116	-	-	-
HBV infection (Absent vs. Present)	0.699	0.405-1.205	0.197	-	-	-
Preoperative AFP (μg/l) (<9 vs. ≥9)	1.416	0.772-2.596	0.261	-	-	-
Preoperative CA19-9 (U/ml) (<35 vs. ≥35)	1.752	0.939-3.268	0.078	-	-	-
Tumor size (mm) (<50 vs. ≥50)	2.192	1.242-3.870	<b>0.007</b>	1.813	1.013-3.245	<b>0.045</b>
Vascular invasion (Absent vs. Present)	1.303	0.750-2.262	0.348	-	-	-
Lymph node metastasis (Absent vs. Present)	2.849	1.627-4.987	<b>&lt;0.001</b>	1.493	0.807-2.761	0.201
Tumor number (Single vs. Multiple)	1.031	0.556-1.914	0.922	-	-	-
Histologic differentiation (Well/Moderate vs. Poor)	1.479	0.881-2.482	0.561	-	-	-
Perineural sheath infiltration (Absent vs. Present)	0.881	0.432-1.797	0.727	-	-	-
Distribution (Unilobar vs. Bilobar)	1.482	0.894-2.457	0.127	-	-	-
Percentage of VEGFR-3 staining (<10% vs. 10-50% vs. >50%)	0.822	0.491-1.379	0.458	-	-	-
Intensity of VEGFR-3 staining (negative vs. moderate vs. strong)	0.929	0.554-1.558	0.780	-	-	-
MLVD (low vs. high)	6.339	3.082-13.038	<b>&lt;0.001</b>	4.904	2.254-10.668	<b>&lt;0.001</b>

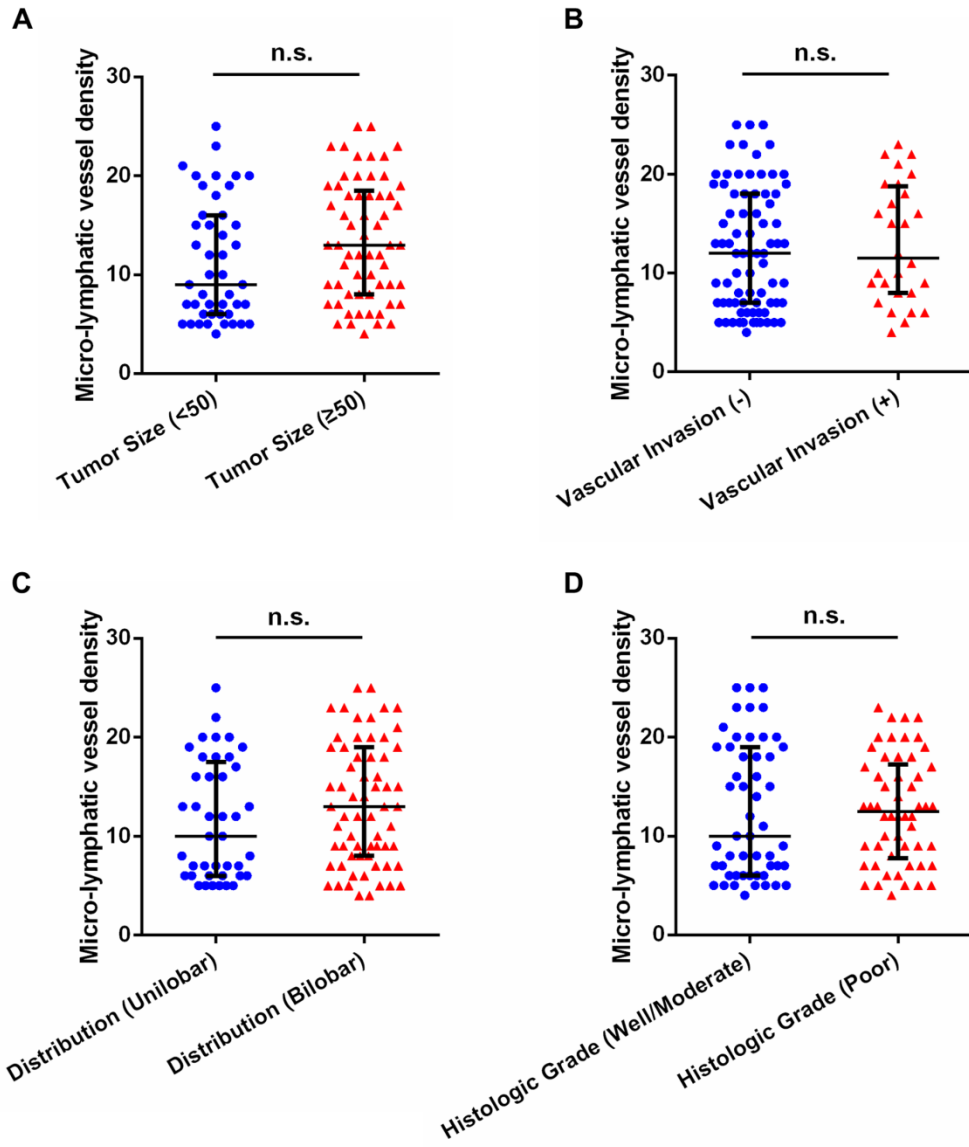
**Supp. Table 4 Univariate and multivariate analysis of prognosis factors for recurrence-free survival of hepatic resected patients with tumors positive expressing VEGFR-3**

Variable	Univariate analysis			Multivariate analysis		
	HR	95%CI	<i>p</i> value	HR	95%CI	<i>p</i> value
Age (<60 vs. ≥60)	1.359	0.822-2.249	0.232	-	-	-
Gender (Male vs. Female)	1.089	0.654-1.814	0.742	-	-	-
HBV infection (Absent vs. Present)	0.526	0.307-0.901	<b>0.019</b>	0.712	0.385-1.315	0.277
Preoperative AFP (μg/l) (<9 vs. ≥9)	1.365	0.761-2.448	0.297	-	-	-
Preoperative CA19-9 (U/ml) (<35 vs. ≥35)	1.445	0.815-2.560	0.208	-	-	-
Tumor size (mm) (<50 vs. ≥50)	1.786	1.054-3.027	<b>0.031</b>	1.667	0.934-2.974	0.084
Vascular invasion (Absent vs. Present)	1.057	0.616-1.816	0.840	-	-	-
Lymph node metastasis (Absent vs. Present)	2.448	1.439-4.165	<b>0.001</b>	1.304	0.729-2.333	0.370
Tumor number (Single vs. Multiple)	1.311	0.730-2.352	0.365	-	-	-
Histologic differentiation (Well/Moderate vs. Poor)	1.297	0.786-2.138	0.309	-	-	-
Perineural sheath infiltration (Absent vs. Present)	0.807	0.397-1.638	0.552	-	-	-
Distribution (Unilobar vs. Bilobar)	1.637	0.958-2.799	0.071	-	-	-
Percentage of VEGFR-3 staining (<10% vs. 10-50% vs. >50%)	0.966	0.587-1.591	0.893			
Intensity of VEGFR-3 staining (negative vs. moderate vs. strong)	0.848	0.514-1.440	0.520			
MLVD (low vs. high)	5.453	2.808-10.590	<b>&lt;0.001</b>	4.036	1.942-8.389	<b>&lt;0.001</b>

Supp. Figure 1



Supp. Figure 2



Supp. Figure 3

