

Supplementary Materials: Prediagnostic Dietary Intakes of Vitamin A and β -Carotene are Associated with Hepatocellular-Carcinoma Survival

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Supplemental Table 1 Distribution of baseline characteristics of study participants by sex-specific quartiles of dietary β -carotene intake

	Sex-specific quartiles of dietary β -carotene intake				P value
	Q1 (n=218)	Q2 (n=220)	Q3 (n=221)	Q4 (n=218)	
Dietary β -carotene intake (μ g RAE/d), range					
Men	< 332.7	332.7-545.3	545.3-814.7	$\geq$ 814.7	
Women	< 388.3	388.3-600.3	600.3-1117.2	$\geq$ 1117.2	
Men/women, n	194/24	195/25	195/26	194/24	
Age(y), mean(SD)	51.0(11.95)	50.8(12.15)	52.2(11.87)	52.9(11.77)	0.215
BMI(kg/m ²), mean(SD)	22.5(3.52)	22.7(3.14)	23.0(3.24)	22.5(2.88)	0.428
Education level, n(%)					0.002
Primary school or below	53(24.3)	47(21.4)	46(20.8)	28(12.8)	
Secondary school	141(64.7)	128(58.2)	124(56.1)	143(65.6)	
High school or above	24(11.0)	45(20.4)	51(23.1)	47(21.6)	
Household income level					0.003
< ¥2000/person/month	98(45.0)	84(38.2)	65(29.4)	72(33.0)	
¥2000~¥4000/person/month	86(39.4)	78(35.5)	93(42.1)	83(38.1)	
> ¥4000/person/month	34(15.6)	58(26.3)	63(28.5)	63(28.9)	
Smoking status, n(%)					< 0.001
Current smoker	65(29.8)	73(33.2)	61(27.6)	60(27.5)	
Ever smoker	85(39.0)	51(23.2)	78(35.3)	51(23.4)	
Never smoker	68(31.2)	96(43.6)	82(37.1)	107(49.1)	
Alcohol drinking status ,n(%)					0.003
Current drinker	61(28.0)	64(29.7)	62(28.1)	45(20.6)	
Ever drinker	45(20.6)	26(11.9)	45(20.4)	28(12.8)	
Never drinker	112(51.4)	131(58.4)	114(51.6)	145(66.5)	
Energy intake(kcal/day)	1959.9(613.81)	2034.9(639.35)	1967.0(603.89)	1955.8(575.28)	0.481
FLD, n(%)	37 (17.0)	36(16.4)	47(21.3)	41(18.8)	0.544
Liver cirrhosis, n(%)	139(63.8)	149(67.7)	150(67.9)	143(65.6)	0.772
BCLC stage, n(%)					0.001
0	17(7.8)	25(11.4)	21(9.5)	31(14.2)	
A	51(23.4)	72(32.7)	71(32.1)	82(37.6)	
B	16(7.3)	19(8.6)	28(12.7)	18(8.3)	
C	134(61.5)	104(47.3)	101(45.7)	87(39.9)	
Tumor number, n(%)					0.158

Single	137(62.8)	129(58.6)	127(57.5)	146(67.0)	0.113
Multiple	81(37.2)	91(41.4)	94(42.5)	72(33.0)	
Tumor size ^a , n(%)					
<5cm	83(38.4)	101(46.3)	108(49.8)	99(45.8)	0.101
≥5cm	133(61.6)	117(53.7)	109(50.2)	117(54.2)	
Vascular invasion, n(%)	57(26.1)	42(19.1)	44(19.9)	37(17.0)	0.559
Child-Pugh score, n(%)					
A	213(97.7)	217(98.6)	219(99.1)	216(99.1)	0.124
B	5(2.3)	3(1.4)	2(0.9)	2(0.9)	
Cancer treatment, n(%)					
Surgery	94(43.1)	108(49.1)	102(46.2)	118(54.1)	0.124
Other treatments ^b	124(56.9)	112(50.9)	119(53.8)	100(45.9)	

Abbreviations: SD, standard deviation; FLD, Fatty liver disease; BCLC stage, Barcelona Clinic Liver Cancer Stage; ^a10 individuals were missed. ^b Including local radiofrequency ablation, hepatic arterial intervention, radiotherapy, chemotherapy and systemic treatment.

Supplemental Table 2 Distribution of baseline characteristics of study participants by sex-specific quartiles of dietary retinol intake

	Sex-specific quartiles of dietary retinol intake				<i>P</i> value
	Q1 (n=219)	Q2 (n=220)	Q3 (n=219)	Q4 (n=219)	
Dietary retinol intake (μg/d), range					
Men	< 28.6	28.6-51.5	51.5-107.7	≥107.7	
Women	< 30.5	30.5-51.5	51.5-128.5	≥128.5	
Men/women, n	194/24	195/25	195/24	194/25	
Age(y), mean(SD)	51.9(11.87)	51.4(11.82)	51.9(11.80)	51.7(12.36)	0.972
BMI(kg/m ²), mean(SD)	22.6(3.56)	22.8(2.89)	22.7(2.98)	22.7(3.36)	0.856
Education level, n(%)					0.016
Primary school or below	46(21.0)	49(22.3)	38(17.4)	41(18.7)	
Secondary school	138(63.0)	139(63.2)	141(64.4)	118(53.9)	
High school or above	35(16.0)	32(14.5)	40(18.2)	60(27.4)	
Household income level					0.059
< ¥2000/person/month	87(39.7)	93(42.3)	74(33.8)	65(29.7)	
¥2000~¥4000/person/month	85(38.8)	81(36.8)	88(40.2)	86(39.3)	
> ¥4000/person/month	47(21.5)	46(20.9)	57(26.0)	68(31.0)	
Smoking status, n(%)					0.197
Current smoker	58(26.5)	63(28.6)	67(30.6)	71(32.4)	
Ever smoker	67(30.6)	66(30.0)	56(25.6)	76(34.7)	
Never smoker	94(42.9)	91(41.4)	96(43.8)	72(32.9)	
Alcohol drinking status, n(%)					0.031
Current drinker	48(21.9)	59(26.8)	51(23.3)	74(33.8)	
Ever drinker	29(13.2)	36(16.4)	40(18.3)	38(17.4)	
Never drinker	142(64.9)	125(56.8)	128(58.4)	107(48.8)	
Energy intake(kcal/day)	2018.2(585.80)	1907.0(654.12)	1983.4(630.07)	2009.6(556.45)	0.208
FLD, n(%)	34(15.5)	36(16.4)	39(17.8)	52(23.7)	0.110
Liver cirrhosis, n(%)	147(67.1)	143(65.0)	149(68.0)	142(64.8)	0.865
BCLC stage, n(%)					0.762
0	21(9.6)	31(14.1)	19(8.7)	23(10.5)	
A	76(34.7)	66(30.0)	69(31.5)	65(29.7)	
B	18(8.2)	18(8.2)	22(10.0)	23(10.5)	
C	104(47.5)	105(47.7)	109(49.8)	108(49.3)	
Tumor number, n(%)					0.193
Single	131(59.8)	147(66.8)	136(62.1)	125(57.1)	
Multiple	88(40.2)	73(33.2)	83(37.9)	94(42.9)	
Tumor size ¹ , n(%)					0.938
<5cm	93(43.3)	99(45.6)	100(46.1)	99(45.4)	
≥5cm	122(56.7)	118(54.4)	117(53.9)	119(54.6)	
Vascular invasion, n(%)	39(17.8)	43(19.5)	48(21.9)	50(22.8)	0.553
Child-Pugh score, n(%)					0.879
A	215(98.2)	217(98.6)	217(99.1)	216(98.6)	

B	4(1.8)	3(1.4)	2(0.9)	3(1.4)	
Cancer treatment, n(%)					0.299
Surgery	98(44.7)	108(49.1)	116(53.0)	100(45.7)	
Other treatments ²	121(55.3)	112(50.9)	103(47.0)	119(54.3)	

Abbreviations: SD, standard deviation; FLD, Fatty liver disease; BCLC stage, Barcelona Clinic Liver Cancer Stage; RAE, retinol activity equivalent. ^a10 individuals were missed. ^bIncluding local radiofrequency ablation, hepatic arterial intervention, radiotherapy, chemotherapy and systemic treatment.