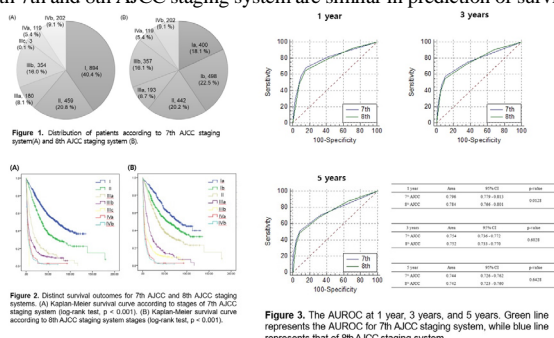


# The direct comparison between 7th & 8th AJCC staging for prediction of survival with HCC patients

<sup>1</sup>고려의대 구로병원, <sup>2</sup>고려의대 안산병원, <sup>3</sup>고려의대 안암병원

\*장성원<sup>1</sup>, 이영선<sup>1</sup>, 이하석<sup>1</sup>, 박해인<sup>1</sup>, 김세화<sup>1</sup>, 이민진<sup>1</sup>, 이찬욱<sup>1</sup>, 정영결<sup>2</sup>, 김지훈<sup>1</sup>, 서연석<sup>3</sup>, 임형준<sup>2</sup>, 연종은<sup>1</sup>, 변관수<sup>1</sup>

**Background/Aims:** AJCC staging is the most commonly used staging system in most solid tumors, and recent AASLD hepatocellular carcinoma (HCC) guideline also endorsed this AJCC staging system based on status of tumor, node, and metastasis. Recently, 8th edition of AJCC staging system was released in December 2016. This study aimed to compare prediction of survival in HCC patients between 7th AJCC staging system and 8th AJCC staging system. **Methods:** From 2004 to 2013, 2211 newly diagnosed HCC patients were consecutively enrolled in three Korea University medical centers and the medical records of patients were retrospectively reviewed. Each patient was classified following both of 7th AJCC staging system and 8th AJCC staging system. **Results:** Chronic hepatitis B (1523, 68.9%) was main attributable factor in development of HCC, followed by chronic hepatitis C (256, 11.6%) and alcohol consumption (241, 10.9%). 1514 patients (68.5%) died during study period and median overall survival (OS) was 24.7 months. According to 7th AJCC staging system, 894 (40.4%) patients were included into stage I; 459 patients (20.8%) into stage II; 180 patients (8.1%) into stage IIIa; 354 patients (16.0%) into stage IIIb; 3 patients (0.1%) into stage IIIc; 119 patients (5.4%) into stage IVa; and 202 patients (9.1%) into stage IVb. According to 8th AJCC staging system, 400 (18.1%) patients were categorized into stage IA; 498 patients (22.5%) into stage IB; 442 patients (20.2%) into stage II; 193 patients (8.7%) into stage IIIa; 357 patients (16.1%) into stage IIIb; 119 patients (5.4%) into stage IVa; and 202 patients (9.1%) into stage IVb. Both 7th staging system and 8th staging system show distinct survival outcomes according to each stage. Although 7th AJCC staging system significantly well predicted 1 year of survival than 8th AJCC staging system (AUROC; 0.796 vs 0.784,  $P=0.013$ ), AUROCs of 3 year and 5 year were similar in 7th and 8th AJCC staging system (0.754 vs 0.752 in 3 year,  $P=0.601$ ; 0.744 vs 0.742 in 5 year,  $P=0.643$ ). **Conclusions:** Both 7th and 8th AJCC staging system show distinct survival outcome according to each stage. Moreover, both 7th and 8th AJCC staging system are similar in prediction of survival outcomes



Characteristics	No.	%	Characteristics	No.	%	Characteristics	No.	%
Age	58.3		CTP score			Tumor status		
Sex			A	1310	59.2%	Size, cm		
Male	1762	79.7%	B	657	29.7%	≤ 2	631	28.5 %
Female	449	20.3%	C	244	11.0%	> 2 to ≤ 5	724	32.7 %
Etiology			AFP, ng/mL	19851.6		> 5	856	38.7 %
Alcohol	241	10.9%	Modality			No. of tumors		
HBV	1522	68.8%	Resection	296	13.4%	1	1115	50.4 %
HCV	256	11.6%	LT	12	0.5%	2-3	529	23.9 %
Combined	15	0.7%	RFA	507	22.9%	> 3	567	25.6 %
Other	177	8.0%	TACE	936	42.3%	Tumor status		
ECOG PS			Chemotherapy	103	4.7%	Early	1103	49.9 %
0	1691	76.5%	Supportive Tx	357	16.1%	Intermediate	400	18.1 %
1	241	10.9%	Follow-up			Locally advanced	708	32.0 %
2	194	8.8%	Died	1514	68.5%	Intrahepatic vas.	307	13.9 %
3	60	2.7%	Follow-up time	21.23 M		Extrahepatic vas.	325	14.7 %
4	25	1.1%				Extrahepatic mets	197	8.9 %

# Sarcopenia may be associated with the mortality in patients with hepatocellular carcinoma

한림대학교 의과대학 성심병원 내과학교실

\*김현구, 김성은, 박지원

**Background:** Sarcopenia has known as an independent predictor of clinical outcomes in patients with hepatocellular carcinoma (HCC). In this study, we aimed to investigate the association of sarcopenia with the mortality in patients with HCC. **Methods:** A total of 193 HCC patients were subjected. All enrolled patients had a computed tomography at the level of the third lumbar (L3) vertebrae to determine the L3 skeletal muscle index. Sarcopenia was defined using previously established cutpoints. They were followed up for a median 12 months (range, 1-80). **Results:** Median age was 58 years (range, 36-86), 80% of patients were male, 62% Child-Pugh class A and 70% were positive for HBsAg. Only 23 patients (12%) could undergo curative treatment (surgical resection, liver transplantation, radiofrequency ablation). Sarcopenia was present in 106 patients (55%). By univariate analysis, sarcopenia (OR=2.08; 95% CI 1.12-3.87;  $P=0.021$ ), Child-Pugh score (OR=1.38; 95% CI 0.92-191.12;  $P<0.001$ ), tumor number (OR=3.01; 95% CI 1.55-5.85;  $P=0.001$ ), tumor size (OR=1.10; 95% CI 1.02-1.187;  $P=0.01$ ), portal vein thrombosis (OR=3.00; 95% CI 1.45-6.21;  $P=0.003$ ) and curative treatment of HCC (OR=0.13; 95% CI 0.04-0.39;  $P<0.001$ ) were associated with mortality. By multivariate analysis, sarcopenia (OR=2.13; 95% CI 1.01-4.54;  $P=0.021$ ) and curative treatment of HCC (OR=0.26; 95% CI 0.08-0.87;  $P=0.029$ ) were closely associated with mortality. There was no correlation with age, gender, cirrhosis, diabetes mellitus, prevalence of hepatitis surface antigen positivity, underlying renal function, body mass index, platelet count, baseline AFP level, Child-Pugh score, tumor size, tumor number and portal vein thrombosis. **Conclusion:** Our data suggested that sarcopenia and curative treatment of HCC may be closely associated with the mortality in HCC patients.

