

Supplementary Table 1. Comparison of clinicopathological features between patients who were sarcopenic alone, sarcopenic/overweight, overweight alone, and neither overweight nor sarcopenic

	Normal N = 27 (10.3%)	Sarcopenic N = 103 (39.3%)	Obese N = 58 (22.1%)	Sarcopenic Obese N = 74 (28.2%)	All patients N = 262	p-value
Median Age at Surgery (years; IQR)	61 (54, 76)	72 (66, 79)	68 (60, 74)	72 (67, 78)	71 (63, 78)	0.01
Sex						
Female	14 (51.9%)	17 (16.5%)	4 (6.9%)	2 (2.7%)	37 (14.1%)	<0.0001
Male	13 (48.1%)	86 (83.5%)	54 (93.1%)	72 (97.3%)	225 (85.9%)	
Tumor Grade						
Low	0 (0%)	9 (8.1%)	10 (16.7%)	9 (12.2%)	28 (10.2%)	0.25
High	27 (100%)	94 (91.9%)	48 (83.3%)	65 (87.8%)	234 (89.8%)	
Pathologic Tumor Stage						
≤ pT1	7 (25.9%)	25 (24.3%)	21 (36.2%)	25 (34.2%)	78 (29.9%)	0.31
pT2	7 (25.9%)	27 (26.2%)	12 (20.7%)	19 (26.0%)	65 (24.9%)	
pT3	10 (37.0%)	36 (35.0%)	24 (41.4%)	23 (31.5%)	93 (35.6%)	
pT4	3 (11.1%)	15 (14.6%)	1 (1.7%)	6 (8.2%)	25 (9.6%)	
pT4	3 (11.1%)	15 (14.6%)	1 (1.7%)	6 (8.2%)	25 (9.6%)	
Pathologic N Stage						
N0	19 (70.4%)	70 (68.0%)	43 (74.1%)	56 (76.7%)	188 (72.0%)	0.73
Nx	1 (3.7%)	11 (10.7%)	5 (8.6%)	4 (5.5%)	21 (8.0%)	
N1	7 (25.9%)	22 (21.4%)	10 (17.2%)	13 (17.8%)	52 (19.9%)	
Pathologic M Stage						
M0	3 (11.5%)	9 (8.9%)	3 (5.3%)	9 (12.5%)	24 (9.4%)	0.24
M1	2 (7.7%)	2 (2.0%)	0 (0.0%)	1 (1.4%)	5 (2.0%)	
Mx	21 (80.8%)	90 (89.1%)	54 (94.7%)	62 (86.1%)	227 (88.7%)	
ASA Score						
ASA 1	1 (3.7%)	2 (1.9%)	0 (0.0%)	0 (0.0%)	3 (1.1%)	0.49
ASA 2	13 (48.1%)	43 (41.7%)	21 (36.2%)	28 (37.8%)	105 (40.1%)	
ASA 3+	13 (48.1%)	58 (56.3%)	37 (63.8%)	46 (62.2%)	154 (58.8%)	
ECOG Performance Status [‡]						
0	21 (84.0%)	83 (83.0%)	48 (84.2%)	57 (80.3%)	209 (82.6%)	0.99
1	3 (12.0%)	11 (11.0%)	7 (12.3%)	10 (14.1%)	31 (12.3%)	
≥ 2	1 (4.0%)	6 (6.0%)	2 (3.5%)	4 (5.6%)	13 (5.1%)	
Mean Albumin (g/dL, SD) [∞]	3.8 (0.7)	3.8 (0.7)	3.9 (0.6)	3.7 (0.7)	3.8 (0.7)	0.63
Mean preoperative Hemoglobin (g/dL, SD) [£]	13.6 (2.3)	13.1 (2.2)	13.9 (1.8)	13.6 (1.8)	13.4 (2.0)	0.22
Type II Diabetes	4 (16.0%)	13 (13.1%)	15 (26.8%)	17 (25.8%)	49 (19.9%)	0.10
Smoking (current/ever)	16 (61.5%)	82 (81.2%)	45 (78.9%)	65 (90.3%)	208 (81.3%)	0.01
Neoadjuvant Chemotherapy	4 (14.8%)	15 (14.7%)	4 (6.9%)	7 (9.6%)	30 (11.5%)	0.43

[‡] Available in 253 patients

[∞] Available in 122 patients

[£] Available in 242 patients

Supplementary Table 2. Anthropomorphic features of patients according body composition

	Normal N = 27 (10.3%)	Sarcopenic N = 103 (39.3%)	Obese N = 58 (22.1%)	Sarcopenic Obese N = 74 (28.2%)	All patients N = 262	p-value
Median BMI (kg/m); IQR)	26.7 (24, 28.6)	24.4 (22.9, 26.3)	32.7 (31.2, 35.4)	29.5 (27.8, 32.6)	27.7 (22.4, 31.1)	< 0.0001
Median Skeletal Muscle Attenuation (HU; IQR)	38.7 (30.9, 46)	35.8 (30.8, 42.5)	34.2 (26.2, 40.7)	29.4 (22.5, 37.3)	34.4 (27.2, 40.5)	<0.0001
Median Skeletal Muscle CSA (cm ² ; IQR)	125.1 (114.7, 190.9)	138.8 (110.7, 154.8)	179.8 (168.5, 194.3)	143.3 (129.8, 155.3)	150.9 (127.2, 169.8)	<0.0001
Median Total Adipose Tissue CSA (cm ² ; IQR)	298.3 (195.5, 372.6)	298.8 (238.3, 374.1)	589.6 (476, 682.9)	521.2 (454.5, 630.8)	424.2 (298.8, 562.5)	<0.0001
Median Skeletal Muscle Index (cm ² /m ² ; IQR)	51.4 (42, 57.1)	44 (38.3, 49.5)	58.5 (56, 62.5)	47.5 (42, 49.8)	48.5 (42, 55.1)	<0.0001
Median Total Fat Mass (kg; IQR)	23.7 (19.4, 26.8)	23.8 (21.2, 26.9)	36 (31.2, 39.9)	33.1 (30.3, 37.7)	29 (23.8, 34.8)	<0.0001
Median Fat Mass Index (kg/m ² ; IQR)	8.0 (7.2, 9.8)	7.7 (6.8, 8.4)	11.6 (10.2, 13.6)	10.6 (9.8, 11.9)	9.5 (7.7, 11.3)	<0.0001

Continuous variables are presented as medians (interquartile range). CSA = cross-sectional area (cm²)

Supplementary Table 3. Subanalysis among nonsarcopenic patients (n=85) assessing the effect of BMI and FMI as continuous variables and of Class I – III obesity by FMI and BMI criteria on all-cause mortality. Of note, among this subcohort, there were a total of 45 deaths from any cause at last follow-up.

All-Cause Mortality	HR (95% Confidence Interval)	P-value
Model 1: BMI (Categorical)		
Age at Surgery (years) [‡]	1.04 (1.00 – 1.07)	0.03
ASA Score (Ref=ASA1-2)	1.42 (0.70 – 2.88)	0.33
Tumor Stage at Surgery (Ref= ≤pT2)	2.38 (1.30 – 4.35)	0.33
Obese (BMI criteria, Ref = no)	0.58 (0.32 – 1.07)	0.08
c-index: 0.693		
Model 2: FMI (Categorical)		
Age at Surgery (years) [‡]	1.04 (1.01 – 1.08)	0.01
ASA Score (Ref=ASA1-2)	1.35 (0.68 – 2.69)	0.40
Tumor Stage at Surgery (Ref= ≤pT2)	2.43 (1.33 – 4.46)	0.004
Obese (FMI criteria, Ref = no)	0.53 (0.28 – 1.00)	0.05
c-index: 0.700		
All-Cause Mortality	HR (95% Confidence Interval)	P-value
Model 1: BMI (Continuous)		
Age at Surgery (years) [‡]	1.03 (1.0 – 1.07)	0.07
ASA Score (Ref=ASA1-2)	1.61 (0.78 – 3.31)	0.20
Tumor Stage at Surgery (Ref= ≤pT2)	2.44 (1.33 – 4.50)	0.004
Body Mass Index (kg/m²)[‡]	0.93 (0.88 – 0.99)	0.03
c-index: 0.698		
Model 2: FMI (Continuous)		
Age at Surgery (years) [‡]	1.04 (1.01 – 1.08)	0.01
ASA Score (Ref=ASA1-2)	1.66 (0.82 – 3.40)	0.16
Tumor Stage at Surgery (Ref= ≤pT2)	2.32 (1.26 – 4.24)	0.007
Fat Mass Index (kg/m²)[‡]	0.86 (0.76 – 0.96)	0.008
c-index: 0.703		
[‡] Continuous variable: represents the change in hazard ratio for increase of one unit of the variable being tested.		