

Supplementary Online Content

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eTable 1. Characteristics of the cohort

eTable 2. Multivariable models for overall mortality by age, body mass index, cancer stage and estrogen receptor status

eTable 3. Distribution of body composition measures

This supplementary material has been provided by the authors to give readers additional information about their work.

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eTable 1. Characteristics of the cohort								
	Total		Sarcopenia ^a			Muscle Radiodensity ^b		
			No	Yes		Normal	Low	
	3,241		2,155	1,086		2,048	1,193	
	N	Col%	Col%	Col%		Col%	Col%	
Age at diagnosis, Mean (SD)^c								
	54.1 (11.8)		52.7 (11.4)	57.0 (12.0)	^d	50.3 (10.7)	60.6 (10.6)	^d
Body Mass Index at scan, Mean (SD)								
	28.3 (6.3)		30.0 (6.4)	24.7 (4.3)	^d	26.6 (5.4)	31.1 (6.8)	^d
Age, categories								
20-29	43	1.3	1.7	0.6	^d	2.0	0.2	^d
30-39	326	10.1	11.1	8.0		13.8	3.6	
40-49	807	24.9	27.3	20.1		32.6	11.7	
50-59	990	30.5	31.8	28.0		31.4	29.1	
60-69	714	22.0	20.0	26.0		15.9	32.6	
>=70	361	11.1	8.0	17.4		4.3	22.8	
Race/Ethnicity								
White	2,263	70.3	67.8	74.4	^d	66.8	76.4	^d
Black	233	7.2	9.3	3.1		7.7	6.5	
Hispanic	281	8.7	10.5	5.3		8.4	9.3	
Asian/PI	405	12.6	11.2	15.3		15.8	7.1	
Other	36	1.1	1.2	1.1		1.3	0.8	
AJCC^e Stage								
II	1950	60.2	59.6	61.2		61.8	57.3	^f
III	1291	39.8	40.4	38.8		38.2	42.7	
Grade								
Well-diff	298	9.2	9.1	9.3		9.3	9.1	
Moderately	1267	39.1	39.5	38.2		37.5	41.9	
Poor/Undiff	1536	47.4	47.0	48.3		49.1	44.5	
Missing	140	4.3	4.4	4.2		4.2	4.5	
Chemotherapy								
No	428	13.3	11.8	16.3	^f	9.4	20.0	^d
Yes	2,793	86.7	88.2	83.7		90.6	80.0	
ER^g Status								
Negative	872	27.0	25.5	29.9	^f	28.6	24.2	^f
Positive	2363	73.0	74.5	70.1		71.4	75.8	

HER2^h Status									
Negative	2376	73.3		73.2	73.5		70.5	78.2	^d
Positive	676	20.9		21.0	20.6		23.4	16.4	
Missing	189	5.8		5.8	5.9		6.1	5.4	
Smoking									
Never	1911	59.0		58.3	60.5		62.3	53.4	^d
Former	966	29.8		29.6	30.3		27.8	33.2	
Current	292	9.0		9.8	7.4		8.1	10.7	
Missing	70	2.2		2.3	1.8		1.8	2.8	
BMIⁱ at scan, categories									
18.5-<25	1112	36.2		23.5	61.4	^d	46.5	18.7	^d
25-<30	968	31.5		33.8	26.9		32.0	30.7	
30-<35	563	18.3		22.8	9.3		13.9	25.9	
>=35	431	14.0		19.9	2.3		7.7	24.7	
630 deaths, median follow-up = 6.1 years (range 0.1-16.4)									
^a Cutpoint for sarcopenia: <40 cm ² /ht ²									
^b Cutpoint for low radiodensity: <37.8 Hounsfield Units, HU									
^c SD = Standard deviation									
^d p < 0.0001									
^e AJCC = American Joint Committee on Cancer									
^f p < 0.05									
^g ER = Estrogen receptor									
^h HER2 = Human epidermal growth factor receptor 2									
BMI = Body mass index									

eTable 2. Multivariable models for overall mortality by age, body mass index, cancer stage and estrogen receptor status^a

	Age at Diagnosis		Body Mass Index at Scan			Cancer Stage		Estrogen Receptor Status		
	<55 years	>=55 years	Normal Weight	Overweight	Obese	Stage II	Stage III	Negative	Positive	
#Events/At-risk	252/166	367/157	199/1163	195/1022	225/1056	283/1950	336/1291	223/872	396/2363	
	HR (95% CI)	HR (95% CI)	HR (95% CI)	HR (95% CI)	HR (95% CI)	HR (95% CI)	HR (95% CI)	HR (95% CI)	HR (95% CI)	
Sarcopenia^b										
Non-sarcopenic	Referent	Referent	Referent	Referent	Referent	Referent	Referent	Referent	Referent	
Sarcopenic	1.73 (1.30, 2.30)	1.22 (0.97, 1.53)	1.36 (0.99, 1.86)	1.54 (1.12, 2.11)	1.31 (0.92, 1.87)	1.50 (1.15, 1.95)	1.40 (1.10, 1.78)	1.31 (0.96, 1.77)	1.48 (1.19, 1.85)	
p for interaction		0.26			0.34		0.79		0.24	
Muscle Radiodensity^c										
Normal radiodensity	Referent	Referent	Referent	Referent	Referent	Referent	Referent	Referent	Referent	
Low radiodensity	1.02 (0.71, 1.46)	0.88 (0.69, 1.11)	0.89 (0.60, 1.30)	1.12 (0.79, 1.58)	0.83 (0.60, 1.14)	1.02 (0.76, 1.36)	0.91 (0.69, 1.19)	0.74 (0.53, 1.04)	1.09 (0.85, 1.39)	
p for interaction		0.93			0.10		0.23		0.25	
Total Adiposity^d										
Low tertile 1	Referent	Referent	Referent	Referent	Referent	Referent	Referent	Referent	Referent	
Middle tertile 2	1.18 (0.86, 1.61)	1.26 (0.95, 1.68)	1.28 (0.89, 1.85)	1.73 (1.06, 2.82)	0.57 (0.07, 4.39)	0.93 (0.69, 1.26)	1.51 (1.13, 2.02)	1.30 (0.92, 1.83)	1.16 (0.89, 1.51)	
High tertile 3	1.68 (1.17, 2.41)	1.26 (0.93, 1.70)	1.22 (0.29, 5.15)	1.78 (0.96, 3.27)	0.70 (0.09, 5.34)	1.09 (0.78, 1.51)	1.67 (1.21, 2.30)	1.50 (1.02, 2.22)	1.31 (0.99, 1.74)	
p for interaction		0.48			0.73		0.22		0.72	
^a All models adjusted for full list of covariates, except the stratified variable, as follows: age at diagnosis (continuous), race (reference=White), stage (reference=II), grade (reference=Well), chemotherapy (reference=No), surgery type (reference=None), smoking (reference=Never), ER (reference=Neg), HER2 (reference=Neg), and partitioned BMI (continuous). ^b Models for sarcopenia (skeletal muscle index <40 cm ² /m ²) adjusted for total adiposity in cm ² (continuous) ^c HU = Hounsfield Units ^d Models for total adiposity (total adipose tissue, in tertiles) adjusted for muscle area in cm ² (continuous)										

eTable 3. Distribution of body composition measures					
		Muscle Area	Skeletal Muscle Index	Muscle Radiodensity	Total Adiposity
		Mean, Median (IQR) ^a	Mean, Median (IQR)	Mean, Median (IQR)	Mean, Median (IQR)
Overall		115.4, 113.1 (25.2)	43.5, 42.8 (9.0)	40.6, 41.2 (13.3)	356.8, 329.4 (253.2)
Sarcopenia					
Non-sarcopenic	≥40 SMI ^b	124.2, 121.5 (21.9)	47.2, 45.9 (7.2)	41.0, 41.4 (12.6)	395.9, 369.3 (264.5)
Sarcopenic	<40 SMI	98.0, 98.7 (14.6)	36.2, 36.8 (3.9)	40.0, 40.6 (14.3)	279.1, 252.8 (190.7)
Muscle Radiodensity					
Normal radiodensity	≥37.8 HU ^c	115.8, 113.3 (24.5)	43.7, 42.8 (8.5)	46.6, 45.7 (8.6)	294.2, 269.8 (200.1)
Low radiodensity	<37.8 HU	114.8, 112.8 (26.9)	43.2, 42.7 (10.0)	30.5, 31.8 (8.0)	464.1, 444.7 (275.6)
Total adiposity					
Low tertile 1		106.8, 105.6 (19.7)	40.4, 40.0 (7.4)	46.5, 46.9 (11.5)	167.8, 176.2 (92.4)
Middle tertile 2		113.3, 111.9 (21.7)	43.0, 42.7 (8.2)	40.7, 41.3 (10.6)	329.2, 329.4 (75.7)
High tertile 3		126.2, 124.4 (27.5)	47.2, 46.3 (10.7)	34.7, 35.2 (12.1)	573.3, 541.8 (175.9)
^a IQR = Interquartile Range					
^b SMI = Skeletal Muscle Index					
^c HU = Hounsfield Units					