

Table 1. Sex-specific difference among grip strength, DXA-defined body composition, and the occurrence of sarcopenia in the T2DM patients

	Females (n = 60)	Males (n = 43)	p value
Grip strength (kg)	17.9 [15.2; 21.7]	34.8 [27; 39.2]	<0.001**
<u>DXA scan</u>			
Total lean mass (kg)	34.7 [31.8; 38.3]	50.7 [46.6; 54.4]	<0.001**
Total BMC (kg)	1.92 [1.67; 2.21]	2.74 [2.41; 2.96]	<0.001**
Total fat mass (kg)	20.5 [15.3; 25]	21 [12.6; 27.6]	0.831
Total body fat (%)	37.7 [30.6; 41.8]	28.9 [21.2; 34]	<0.001**
Arms fat mass (kg)	2.11 [1.59; 2.78]	1.51 [1.12; 2.39]	0.003*
Arms lean mass (kg)	3.42 [3.07; 3.83]	5.52 [5.03; 6.04]	<0.001**
Arms fat to lean ratio [§]	0.61 [0.49; 0.75]	0.27 [0.22; 0.38]	<0.001**
Legs fat mass (kg)	5.29 [3.44; 7.04]	4.27 [3.03; 6.23]	0.100
Legs lean mass (kg)	10.4 [9.9; 11.2]	15.4 [14; 16.7]	<0.001**
Legs fat to lean ratio [§]	0.50 [0.33; 0.64]	0.27 [0.20; 0.36]	<0.001**
Android fat mass (kg)	2.12 [1.55; 2.77]	2.55 [1.47; 3.38]	0.143
Gynoid fat mass (kg)	3.21 [2.43; 4.10]	2.89 [2.11; 3.78]	0.122
Android to gynoid fat ratio [‡]	0.67 [0.56; 0.77]	0.83 [0.71; 0.93]	<0.001**
ASM/ht ² (kg/m ²)	5.94 [5.45; 6.33]	7.47 [6.73; 8]	0.013*
<u>Diagnosis of sarcopenia</u>			
Sarcopenia % (n)	15 % (9)	20.9 % (9)	0.434

Continuous variables were analyzed using the Mann-Whitney U-test and are presented as median values and [quartiles]; Categorical variables were analyzed using the Chi-square test and are presented as percentages (number). Abbreviations: DXA, dual-energy x-ray absorptiometry; BMC, bone mineral content; ASM, appendicular skeletal muscle mass; ht, height. * $p < 0.05$; ** $p < 0.001$.

§: Fat to lean ratio was calculated via dividing fat mass (kg) by lean mass (kg)

‡: Android to gynoid fat ratio was calculated via dividing android fat mass (kg) by gynoid fat mass (kg)

Table 2. The sex-specific correlations of sarcopenia with various body composition in T2DM patients (60 females and 43 males)

Spearman correlation (<i>r</i> , <i>r</i> adjusted for BMI)	Sarcopenia	
	Female	Male
BMI	(-0.513** ; N/A)	(-0.240; N/A)
Age	(-0.055; -0.041)	(0.322* ; 0.268)
WHR	(-0.155; 0.041)	(-0.023; 0.222)
Grip strength	(-0.415** ; -0.368**)	(-0.654** ; -0.712**)
ASM/ht ²	(-0.586** ; -0.344**)	(-0.659** ; -0.659**)
Total lean mass	(-0.408** ; -0.151)	(-0.516** ; -0.426**)
Total BMC	(-0.358** ; -0.142)	(-0.327* ; -0.304)
Total fat mass	(-0.443** ; 0.081)	(-0.166; 0.212)
Total body fat (%)	(-0.325* ; 0.090)	(-0.032; 0.333*)
Android/gynoid fat ratio [†]	(-0.112; 0.029)	(-0.083; 0.015)

Data were analyzed with Spearman correlation and presented with correlation coefficients (*r*; *r* adjusted for BMI). Abbreviation: BMI, body mass index; WHR, waist to hip ratio; ASM, appendicular skeletal muscle mass; ht, height; BMC, bone mineral content. **p*<0.05; ***p*<0.01

†: Android/gynoid fat ratio was calculated via dividing android fat mass (kg) by gynoid fat mass (kg)

Table 3. The sex-specific correlations of appendicular fat to lean ratio with sarcopenia associated parameters in T2DM patients

Spearman correlation (<i>r</i> , <i>r</i> adjusted for BMI)	Arms fat to lean ratio [§]	
	Female (n=60)	Male (n=43)
Grip strength	(0.033; -0.079)	(-0.236; -0.415**)
ASM/ht ²	(0.094; -0.538**)	(0.089; -0.632**)
Sarcopenia	(-0.295* ; 0.084)	(0.069; 0.515**)
Spearman correlation (<i>r</i> , <i>r</i> adjusted for BMI)	Legs fat to lean ratio [§]	
	Female (n=60)	Male (n=43)
Grip strength	(0.111; 0.004)	(-0.205; -0.236)
ASM/ht ²	(0.014; -0.545**)	(0.037; -0.635**)
Sarcopenia	(-0.271* ; 0.043)	(0.106; 0.432**)

Data were analyzed with Spearman correlation and presented with correlation coefficients (*r*; *r* adjusted for BMI). Abbreviation: BMI, body mass index; ASM, appendicular skeletal muscle mass; ht, height. **p*<0.05; ***p*<0.01.

§: Fat to lean ratio was calculated via dividing fat mass (kg) by lean mass (kg)

Table 4. Analyze sex-specific predictors for sarcopenia in T2DM patients

Female	Multivariable stepwise logistic regression		
	OR	95%C.I.	<i>p-value</i>
BMI	0.338	0.161-0.710	0.004
Total body fat (%)	1.217	0.944-1.568	0.130
Total BMC	0.996	0.992-1.001	0.092
Male	Multivariable stepwise logistic regression		
	OR	95%C.I.	<i>p-value</i>
BMI	0.526	0.299-0.924	0.026
Arms fat to lean ratio (Z score)	34.586	1.926-621.002	0.016
Total BMC	0.998	0.996-1.000	0.088

Variables including age, BMI, arms fat to lean ratio, legs fat to lean ratio, android to gynoid fat ratio, total body fat (%), total BMC were analyzed using multivariable stepwise logistic regression (Backward LR). Variables in females are removed in order as below: android to gynoid fat ratio, arms fat to lean ratio, age, legs fat to lean ratio. Variables in males are removed in order as below: age, total body fat (%), android to gynoid fat ratio, legs fat to lean ratio. Abbreviations: BMI, body mass index; BMC, bone mineral content.