

# Monitoring the effect of perioperative nutritional care on body composition and functional status in patients with carcinoma of gastrointestinal and hepatobiliary system and pancreas

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**SUPPLEMENTARY TABLE 1.** Baseline demographic and clinical characteristics of participants (n = 47)

Variable	All participants N = 47	First group N = 27	Second group N = 20	P
<b>Gender</b>				
Male, N (%)	33 (70.2)	21 (77.8)	12 (60.0)	0.214
Female, N (%)	14 (29.8)	6 (22.2)	8 (40.0)	
<b>Age</b> , years, median (25–75%)	72 (64–80)	72 (64–82)	72 (65–77)	0.477
<b>Diagnosis</b>				
GIT tumours, N (%)	27 (57.4)	15 (55.6)	12 (60.0)	1.000
Tumours of liver, gallbladder, biliary system and pancreas, N (%)	20 (42.6)	12 (44.4)	8 (40.0)	

GIT = Gastrointestinal tract

**SUPPLEMENTARY TABLE 2.** Clinical characteristics of participants upon enrolment into the study

Variable	First group N = 27	Second group N = 20	P
<b>Body mass</b> , kg, median (25–75%)	82.0 (70.0–98.0)	78.5 (72.3–88.3)	0.268
<b>BMI</b> , kg/m <sup>2</sup> , median (25–75%)	26.2 (23.4–34.5)	27.5 (24.3–29.6)	0.569
<b>Lean mass</b> , kg, median (25–75%)	53.1 (47.1–64.2)	53.9 (45.0–59.6)	0.505
<b>FFMI</b> , median (25–75%)	17.8 (16.4–20.3)	17.6 (15.9–20.4)	0.561
<b>Phase angle</b> , °, median (25–75%)	4.7 (4.3–5.4)	4.6 (4.0–5.5)	0.846
<b>3<sup>rd</sup> space water</b> , L, median (25–75%)	-0.1 (-0.8–1.0)	0.4 (-0.4–0.9)	0.425
<b>Hand grip strength</b> , kg, median (25–75%)	34.1 (28.5–41.6)	/	
<b>Hand grip strength norm</b>		/	
No, N (%)	19 (70.4)	/	
Yes, N (%)	8 (29.6)	/	
<b>Hand grip strength: deviation</b> , median (25–75%)	0.2 (-0.1–1.2)	/	
<b>Points</b> , median (25–75%)	2 (0–3)	3 (3–3.8)	0.012
<b>Malnutrition according to GLIM</b>			
No, N (%)	14 (51.9)	16 (80.0)	0.067
Yes, N (%)	13 (48.1)	4 (20.0)	

BMI = body mass index; FFMI = fat free mass index; GLIM = Global Leadership in Malnutrition criteria; Hand grip strength norm = patients meets the norm for hand grip strength for age and sex; Hand grip strength deviation = deviation of hand grip strength from the norm expressed as a multiple of standard deviation; NRS = Nutritional Risk Screening

/ = No data for this group

SUPPLEMENTARY TABLE 3. Clinical characteristics of participants after 7 days

Variable	First group N=11 [16]	Second group N=18 [2]	P
<b>Body mass</b> , kg, median (25–75%)	72.0 (67.8–93.2)	76.4 (68.5–85.6)	0.912
<b>BMI</b> , kg/m <sup>2</sup> , median (25–75%)	25.4 (22.7–36.1)	26.8 (24.1–29.0)	0.808
<b>Lean mass</b> , kg, median (25–75%)	52.0 (48.2–53.2)	52.0 (41.9–57.1)	0.842
<b>FFMI</b> , median (25–75%)	17.8 (16.5–20.8)	17.4 (15.8–19.0)	0.340
<b>Phase angle</b> , °, median (25–75%)	4.3 (3.5–4.9)	4.4 (3.3–5.1)	0.947
<b>3<sup>rd</sup> space water</b> , L, median (25–75%)	0.7 (-0.3–1.6)	0.4 (-0.6–1.0)	0.642

BMI = body mass index; FFMI = fat free mass index;

[number of missing participants in each group]

SUPPLEMENTARY TABLE 4. Clinical characteristics of participants after 14 days

Variable	First group N = 19 [8]	Second group N = 18 [2]	P
<b>Body mass</b> , kg, median (25–75%)	73.0 (65.0–92.0)	75.5 (70–84.5)	0.869
<b>BMI</b> , kg/m <sup>2</sup> , median (25–75%)	25 (22.5–34.1)	26.4 (22–28.9)	0.620
<b>Lean mass</b> , kg, median (25–75%)	50.1 (46.4–52.1)	53.2 (45–58)	0.707
<b>FFMI</b> , median (25–75%)	16.8 (15.8–19.4)	17.4 (15.6–19.6)	1.000
<b>Phase angle</b> , °, median (25–75%)	4.4 (4.1–5)	4.2 (3.6–4.7)	0.461
<b>3<sup>rd</sup> space water</b> , L, median (25–75%)	0.5 (-0.4–1.4)	0.2 (-0.1–1)	0.988
<b>Hand grip strength*</b> , kg, median (25–75%)	30.2 (25–35.3)	30.3 (25.8–36.8)	0.782
<b>Hand grip strength norm*</b>			
No, N (%)	11 (61.1)	9 (52.9)	0.738
Yes, N (%)	8 (47.1)	7 (38.9)	
<b>Hand grip strength deviation*</b> , median (25–75%)	0.1 (-0.5–0.5)	0.3 (-0.4–1)	0.369
<b>NRS 2002**</b> , points, median (25–75%)	4 (3–4.3)	4 (3–4.5)	0.961

BMI = body mass index; FFMI = fat free mass index; Hand grip strength: norm = patients meets the norm for hand grip strength for age and sex; Hand grip strength deviation = deviation of hand grip strength from the norm expressed as a multiple of standard deviation; N 0 number; NRS 2002 = score achieved on screening with Nutritional Risk Screening 2002 tool;

[number of missing participants];

\*additional missing data for 1 participant in first and 1 in second group; \*\*additional missing data for 2 participants in first group

SUPPLEMENTARY TABLE 5. Clinical characteristics of participants after 4 weeks

Variable	First group N = 15 [12]	Second group N = 13 [7]	P
Body mass, kg, median (25–75%)	69.4 (66–76.8)	75 (72.5–86.5)	0.130
BMI, kg/m <sup>2</sup> , median (25–75%)	23.8 (21.7–27.2)	26 (23–29.5)	0.413
Lean mass, kg, median (25–75%)	48.4 (41.7–50.6)	55 (46.5–60.2)	0.065
FFMI, median (25–75%)	16.5 (15.1–17.5)	18.8 (15.9–19.8)	0.118
Phase angle, °, median (25–75%)	4.8 (3.7–5.3)	4.4 (3.3–4.7)	0.201
3 <sup>rd</sup> space water, L, median (25–75%)	0.4 (-0.2–1.1)	0.4 (-0.2–1.3)	0.928
Hand grip strength*, kg, median (25–75%)	29.7 (23.6–32.7)	32.6 (27.3–35.6)	0.254
<b>Hand grip strength norm*</b>			
No, N (%)	8 (53.3)	8 (61.5)	0.718
Yes, N (%)	7 (46.7)	5 (38.5)	
Hand grip strength: deviation*, median (25–75%)	0.1 (-0.7–0.3)	0.3 (-0.8–0.8)	0.683
NRS 2002**, points, median (25–75%)	4 (3–5)	3 (3–4)	0.235

BMI = body mass index; FFMI = fat free mass index; Hand grip strength norm = patients meets the norm for hand grip strength for age and sex; Hand grip strength: deviation = deviation of hand grip strength from the norm expressed as a multiple of standard deviation; N = number; NRS 2002 = score achieved on screening with Nutritional Risk Screening 2002 tool;

[number of missing participants].

Relative differences between the two groups when compared to the starting values

SUPPLEMENTARY TABLE 6. Relative changes in clinical characteristics of participants after 7 days

Variable		First group N = 11	Second group N = 18	P
Body mass	%, median (25–75%)	0.0 (-1.9–2.0)	-2.7 (-5.0–0.9)	0.220
BMI	%, median (25–75%)	0.0 (-1.9–2.0)	-2.7 (-5.0–0.9)	0.220
Lean mass	%, median (25–75%)	4.2 (-1.1–17.3)	-2.1 (-5.5–1.7)	0.039
FFMI	%, median (25–75%)	4.3 (-1.3–12.7)	-2.3 (-6.9–1.6)	0.035
Phase angle	%, median (25–75%)	0.0 (-23.4–5.4)	-4.4 (-16.9–0.0)	0.774
3 <sup>rd</sup> space water	%, median (25–75%)	-22.2 (-100.0–28.6)	11.1 (-48.4–45.8)*	0.342

BMI = body mass index; FFMI = fat free mass index; \*data missing for 2 participants

SUPPLEMENTARY TABLE 7. Relative changes in clinical characteristics of participants after 14 days

Variable		First group N = 19	Second group N = 18	P
Body mass	%, median (25–75%)	-3.2 (-6.1–0)	-5.6 (-7.9 to -2.5)	0.313
BMI	%, median (25–75%)	-3.2 (-6.1–0)	-5.6 (-7.9 to -2.5)	0.313
Lean mass	%, median (25–75%)	-2.1 (-7.4–1.2)	-5.5 (-7.5 to -0.6)	0.245
FFMI	%, median (25–75%)	-2.5 (-7.4–1.2)	-5.4 (-7.9 to -0.9)	0.245
Phase angle	%, median (25–75%)	-6.7 (-7.7–2.1)	-12.3 (-15.6 to -5.1)	0.075
3 <sup>rd</sup> space water	%, median (25–75%)	-5.6 (-73.7–103.6)*	-20 (-83.7 to 18.9)*	0.546

BMI = body mass index; FFMI = Fat free mass index; \*data missing for 1 participant

SUPPLEMENTARY TABLE 8. Relative changes in clinical characteristics of participants after 4 weeks

Variable		First group N=15	Second group N=13	P
Body mass	%, median (25–75%)	-2.8 (-6.9–0.9)	-3.9 (-6.5 to -0.2)	0.821
BMI	%, median (25–75%)	-2.8 (-6.9–0.9)	-3.9 (-6.5 to -0.2)	0.821
Lean mass	%, median (25–75%)	-2.7 (-8–1.2)	-2.4 (-5.7 to 0.5)	0.856
FFMI	%, median (25–75%)	-2.9 (-7.7–0)	-2.3 (-5.5 to 0.4)	0.717
Phase angle	%, median (25–75%)	-1.8 (-12.8–9.1)	-9.8 (-18.3 to -5.9)	0.088
3 <sup>rd</sup> space water	%, median (25–75%)	-25 (-60–10)	-43.8 (-150.8 to -8.1)*	0.256

BMI = body mass index; FFMI = fat free mass index; \*data missing for 1 participant