DIGESTIVE CANCERS EUROPE

MASTERCLASS SERIES
Leading Change for Improved Patient Outcomes
2020 - VIRTUAL EXPERIENCE

DIGESTIVE CANCERS EUROPE

Nutrition as key part of digestive cancer patient journey

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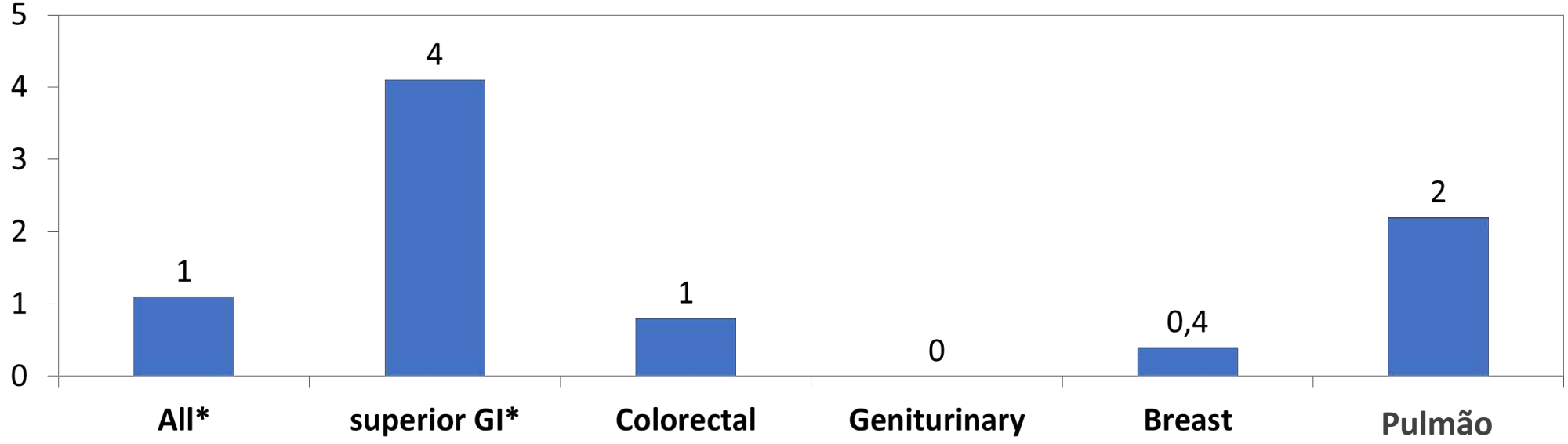
Cancer wasting

8 - 87% cancer patients may develop undernutrition

- Head-neck
- Oesophagus
- Stomach
- Pancreas
- Lung
- Advanced colon-rectum

Ravasco et al 2010; Stratton et al 2003

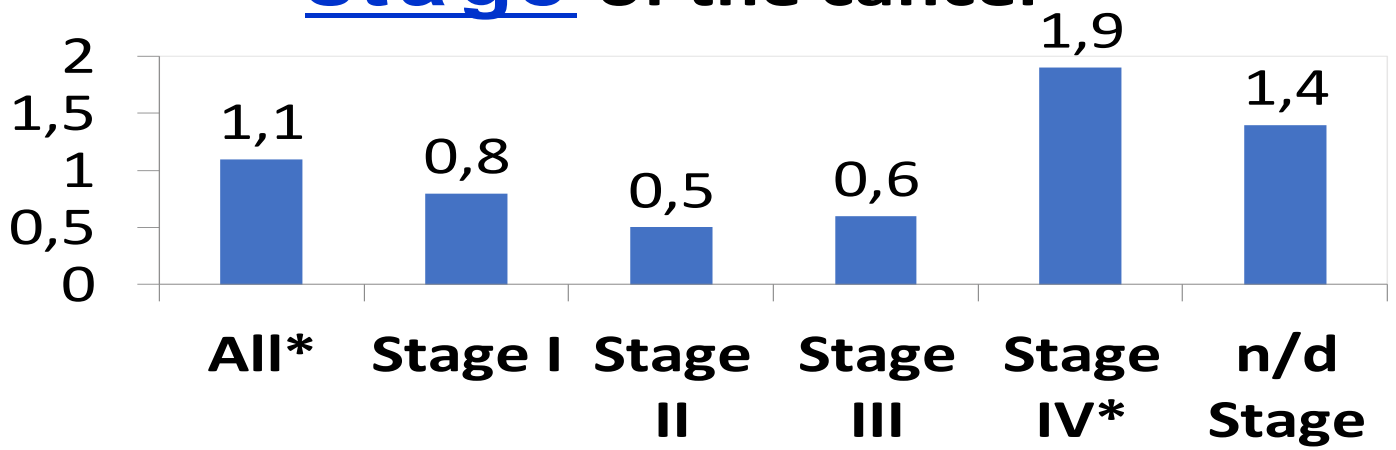
% of weight loss considering the location of the cancer



n=465

Under CT

% of weight loss considering stage of the cancer



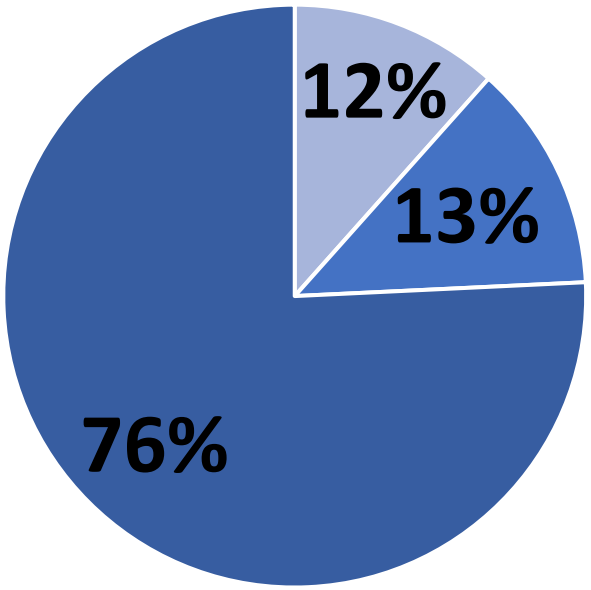
Bartissol B, Ravasco P, et al. JCWD 2019

Undernutrition at start of chemotherapy

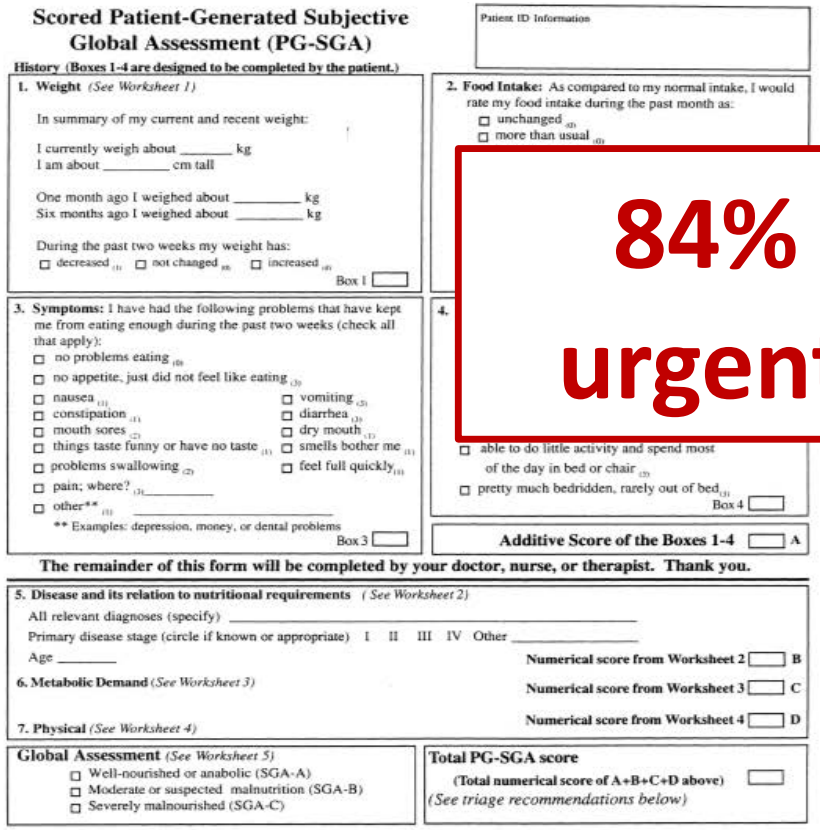
n=561
Under CT

34%
lost weight in
previous month
median variation 6%

53%
lost weight in
previous 6 months
median variation 10,2%



- A - Well Nourished
- C- Severely Malnourished
- B - Moderated Malnourished



Scored Patient-Generated Subjective Global Assessment (PG-SGA)

Patient ID Information

History (Boxes 1-4 are designed to be completed by the patient.)

1. Weight *(See Worksheet 1)*

In summary of my current and recent weight:

I currently weigh about _____ kg
I am about _____ cm tall

One month ago I weighed about _____ kg
Six months ago I weighed about _____ kg

During the past two weeks my weight has:
☐ decreased ☐ not changed ☐ increased
Box 1

2. Food Intake: As compared to my normal intake, I would rate my food intake during the past month as:
☐ unchanged
☐ more than usual

3. Symptoms: I have had the following problems that have kept me from eating enough during the past two weeks (check all that apply):
☐ no problems eating
☐ no appetite, just did not feel like eating
☐ nausea ☐ vomiting
☐ constipation ☐ diarrhea
☐ mouth sores ☐ dry mouth
☐ things taste funny or have no taste ☐ smells bother me
☐ problems swallowing ☐ feel full quickly
☐ pain; where? _____
☐ other** _____
** Examples: depression, money, or dental problems
Box 3

4.
☐ able to do little activity and spend most of the day in bed or chair
☐ pretty much bedridden, rarely out of bed
Box 4

Additive Score of the Boxes 1-4 ☐ A

The remainder of this form will be completed by your doctor, nurse, or therapist. Thank you.

5. Disease and its relation to nutritional requirements *(See Worksheet 2)*
All relevant diagnoses (specify) _____
Primary disease stage (circle if known or appropriate) I II III IV Other _____
Age _____
Numerical score from Worksheet 2 ☐ B

6. Metabolic Demand *(See Worksheet 3)*
Numerical score from Worksheet 3 ☐ C

7. Physical *(See Worksheet 4)*
Numerical score from Worksheet 4 ☐ D

Global Assessment *(See Worksheet 5)*
☐ Well-nourished or anabolic (SGA-A)
☐ Moderate or suspected malnutrition (SGA-B)
☐ Severely malnourished (SGA-C)

Total PG-SGA score
(Total numerical score of A+B+C+D above) ☐
(See triage recommendations below)

84% pts needed urgent intervention

Trabulo C, Ravasco P, et al.
Ongoing project – results in press 2020


OUTCOMES
NUTRITION
METABOLISM
CANCER

critical weight loss and poor treatment response

n=134, head and neck cancer

. Patients	
Total number	130
Mean age (SD)	59 (38-73)
Gender	
Male	122 (93,8%)
Female	8 (6,2%)
Primary Tumor	
Oropharynx	60 (46,2%)
Hypopharynx	34 (26,2%)
Larynx	19 (14,6%)
Oral Cavity	17 (13,1%)
Tumor Stage	
III	11 (8,5%)
IVa	96 (73,8%)
IVb	23 (17,7%)

Response in patients with severe wieght loss vs without (CCRT in Day 1)

Response Assessement	Severe Weight loss	Without severe weight loss	Total	p
Complete Response	21 (17,1%)	50 (40,6%)	71	0,002
Partial Response/Progression	31 (25,2%)	21 (17,1%)	52	
Total	52 (42,3%)	71 (57,7%)	123	

Retrospective study between April 2016-April 2019 that included 134 HNC patients treated with RT(69.98Gy/33fr/6.5weeks) and CT(concomitant cisplatin 100mg/m^2 days 1,22,43). Exclusion criteria: nasopharynx cancer, stage IVc, relapsed disease, pts in clinical trials. All pts referred to nutrition prior to CCRT. Pretreatment critical WL defined as ≥10% in 6-mts and >5% of baseline weight during CCRT. Data obtained from hospital records; IBM SPSS® v25 used for statistics.

Weight loss was highly frequent

critical weight loss negatively affected concomitante chemo-radiotherapy response, suggestting a negative effect on disease control (40% patients that suffered disease progression)

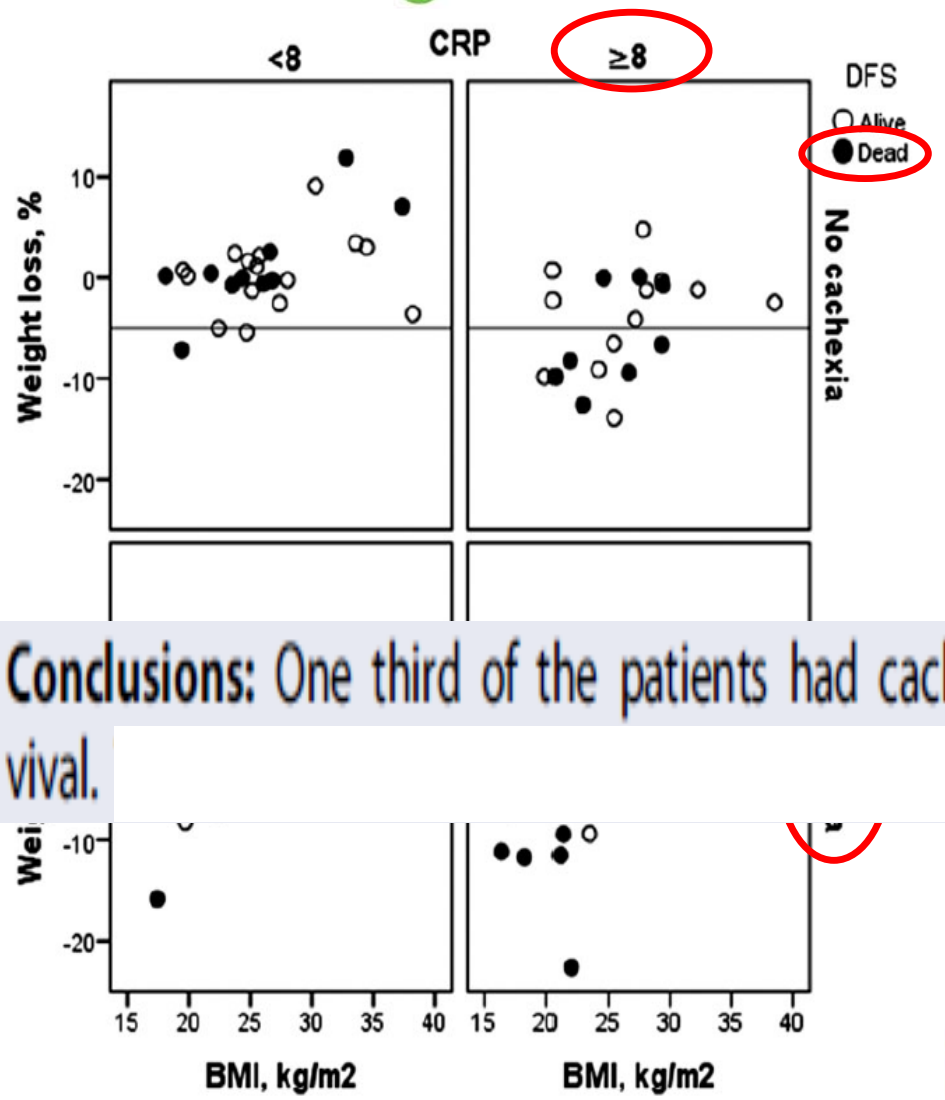
Bento C, Ravasco P, et al 2020; 42th ESPEN congress

ACTA OTO-LARYNGOLOGICA, 2017
http://dx.doi.org/10.1080/00016489.2016.1277263

RESEARCH ARTICLE

Cachexia at diagnosis is associated with poor survival in head and neck cancer patients

Helena Orell-Kotikangas[a], Pia Österlund[b]*, Outi Mäkitie[c]*, Kauko Saarilahti[b], Paula Ravasco[d], Ursula Schwab[e,f] and Antti A. Mäkitie[g,h]



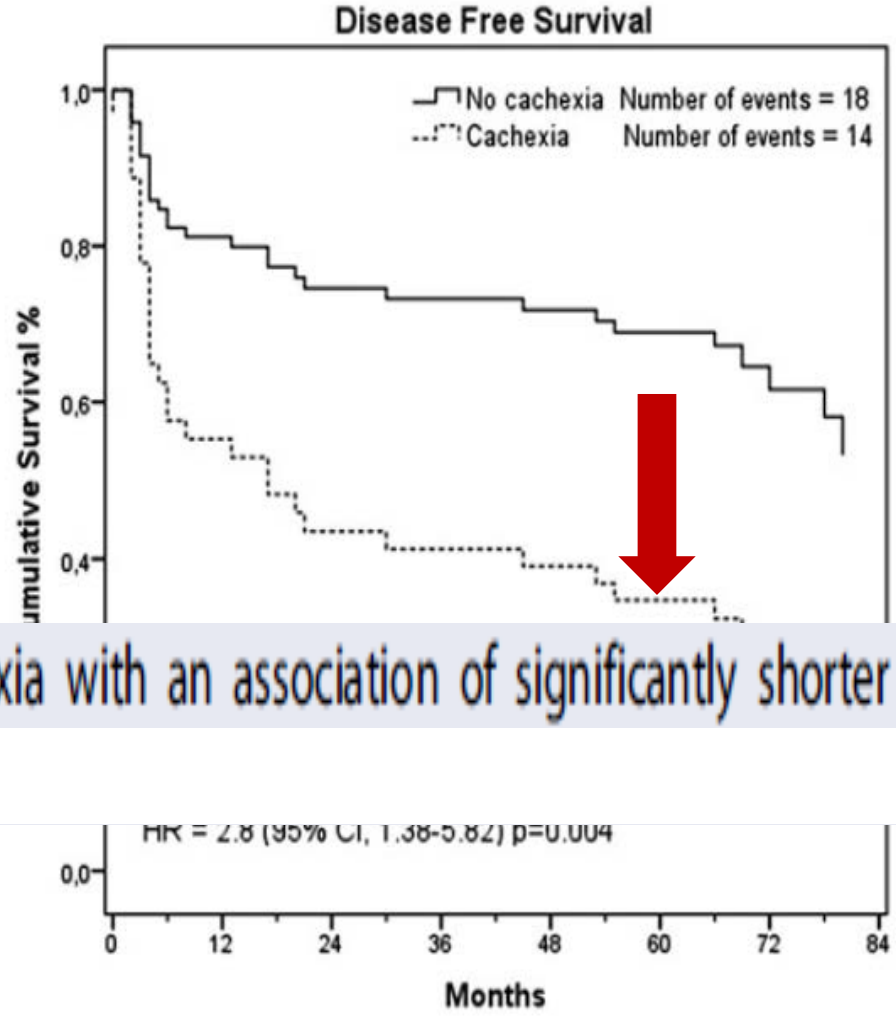


Figure 2. Cox regression analysis curves for cachectic ($n = 20$) and non-cachectic patients ($n = 45$).

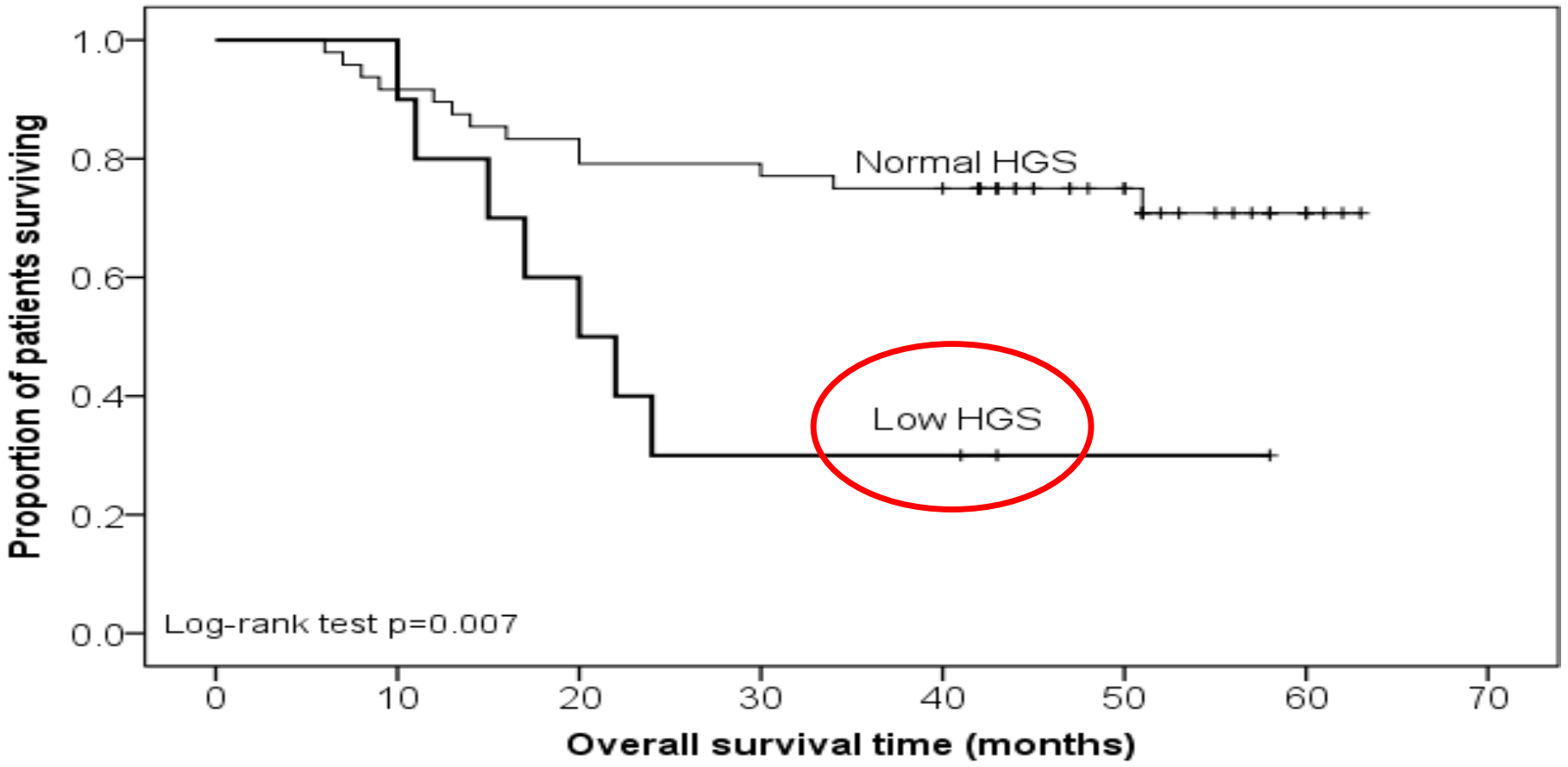
Conclusions: One third of the patients had cachexia with an association of significantly shorter survival.

frontiers in Nutrition

Helena Orell[1*], Ursula Schwab[2,3], Kauko Saarilahti[4], Pia Österlund[4], Paula Ravasco[5,6] and Antti Mäkitie[7,8,9]

CLINICAL TRIAL
published: 18 March 2019
doi: 10.3389/fnut.2019.00022

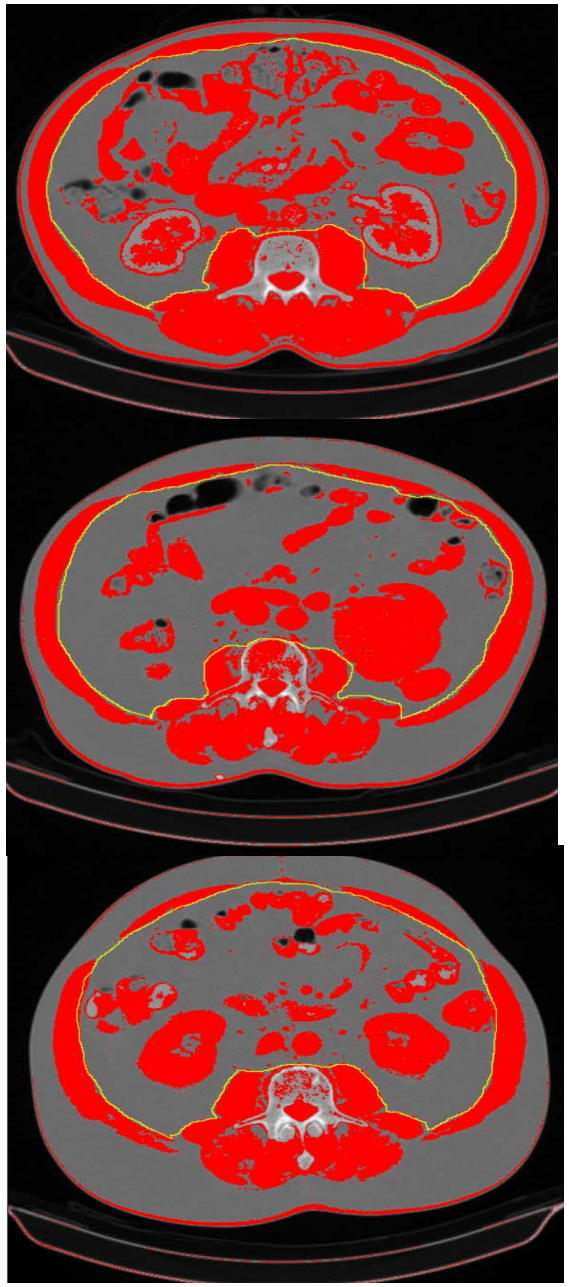
Figure 2a



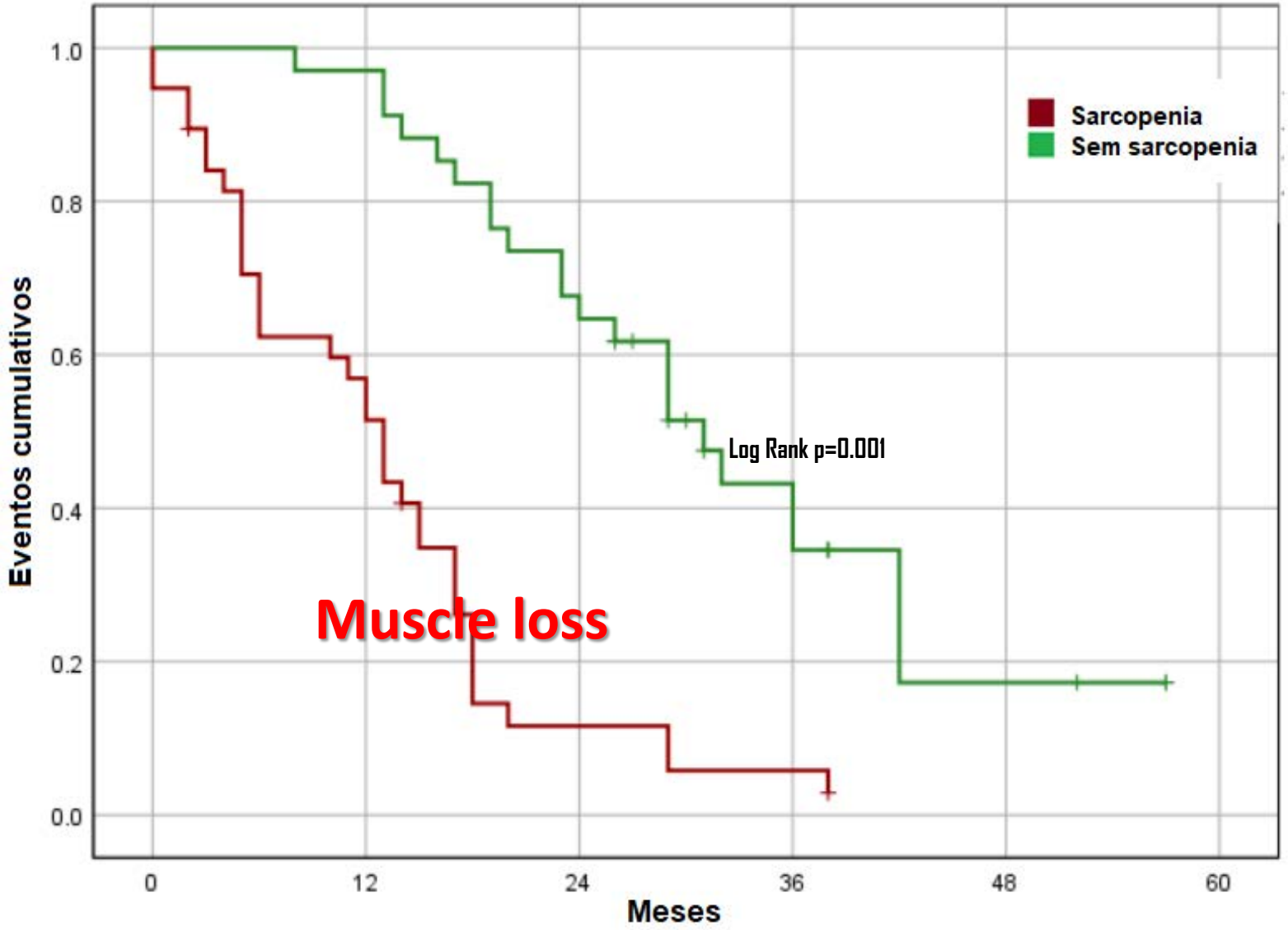
Median overall survival was 45 months (95% CI 44 to 55 months) for normal handgrip strength (≥5th percentile) and 21 months (95% CI 12 to 28 months) for low handgrip strength (<5th percentile).

Low muscle strength and malnutrition related to poor survival

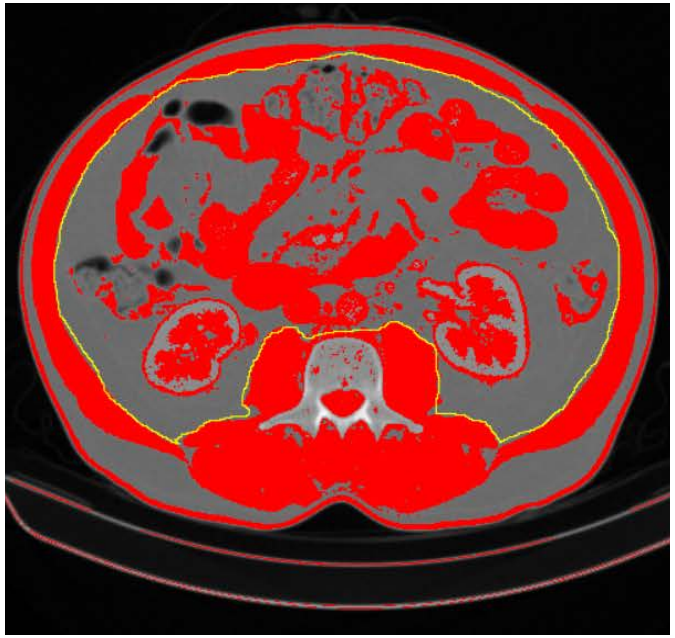
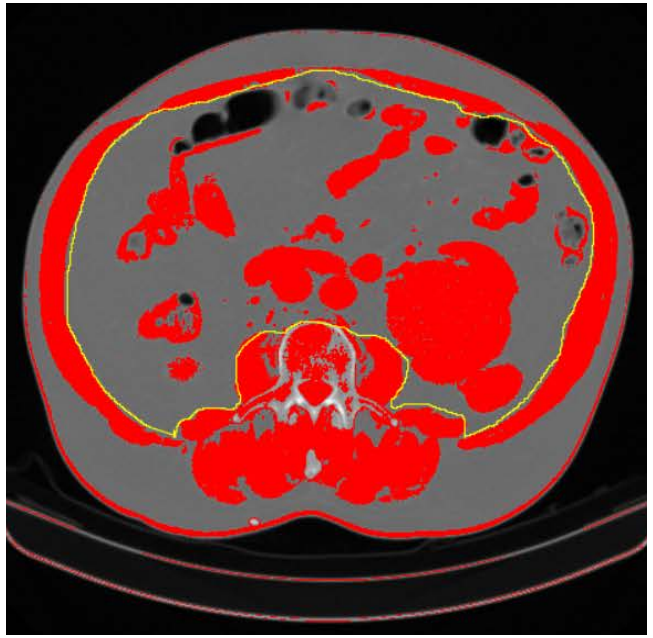
Muscle loss impacts survival and dose limiting toxicity to CT



n=178 metastatic colorectal cancer on 1st line treatment (CT + target therapy)



Dias D, Ravasco P, et al. Ongoing project – results in press 2020

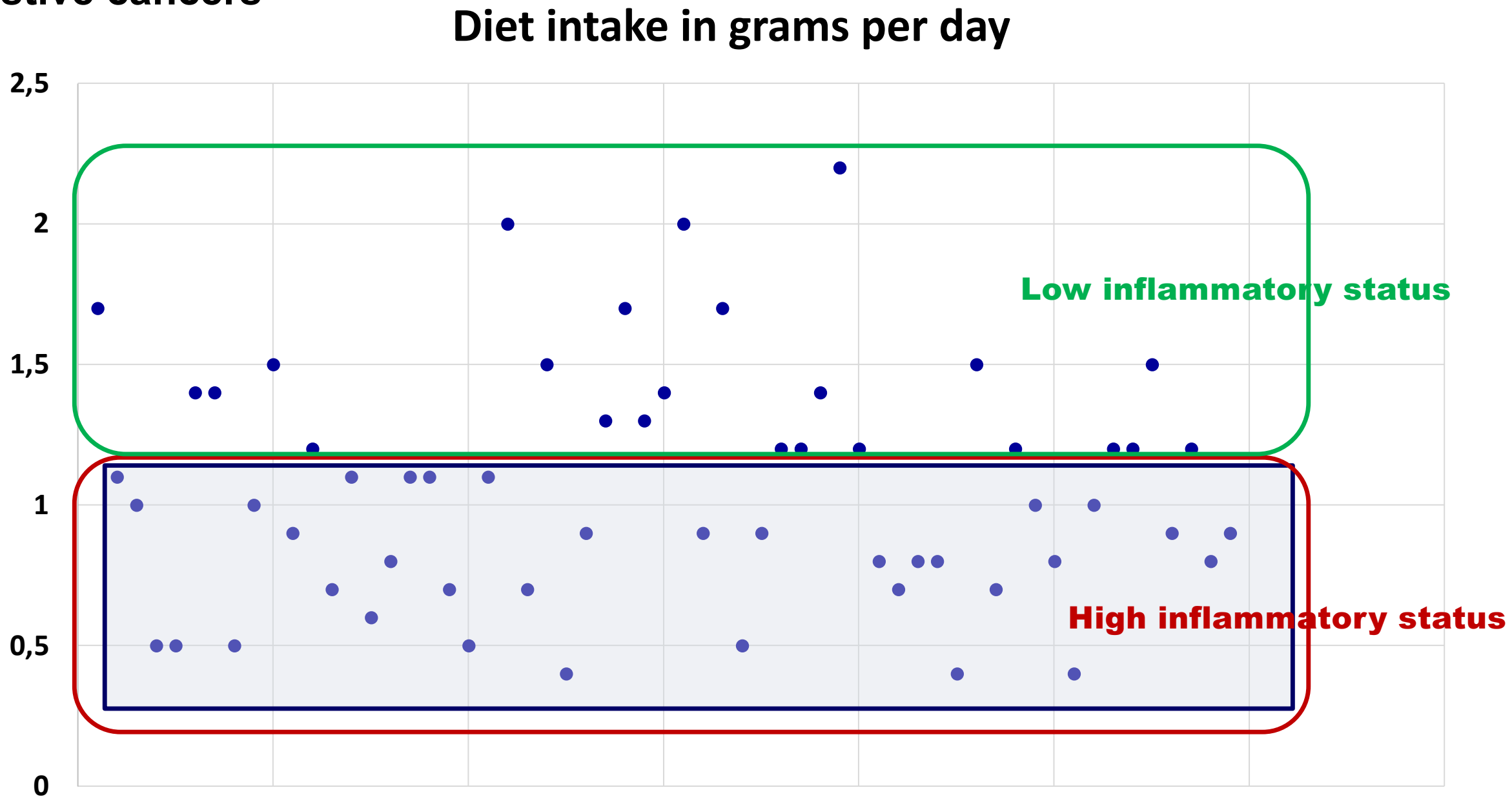

IMC	28,13 kg/m² [Excesso de peso]	28,70 kg/m² [Excesso de peso]	34,51 kg/m² [Obesidade]
IME / Sarcopenia	62.8 cm²/m² | normal muscle	45.4 cm²/m² Muscle loss	46,1 cm²/m² Muscle loss
SURVIVAL	37 months	13 months	5 meses 5 months
TLD	Não	Sim	Sim

Dias D, Ravasco P, et al. Ongoing project – results in press 2020

Ravasco *et al* 2020; 42 ESPEN. project ongoing

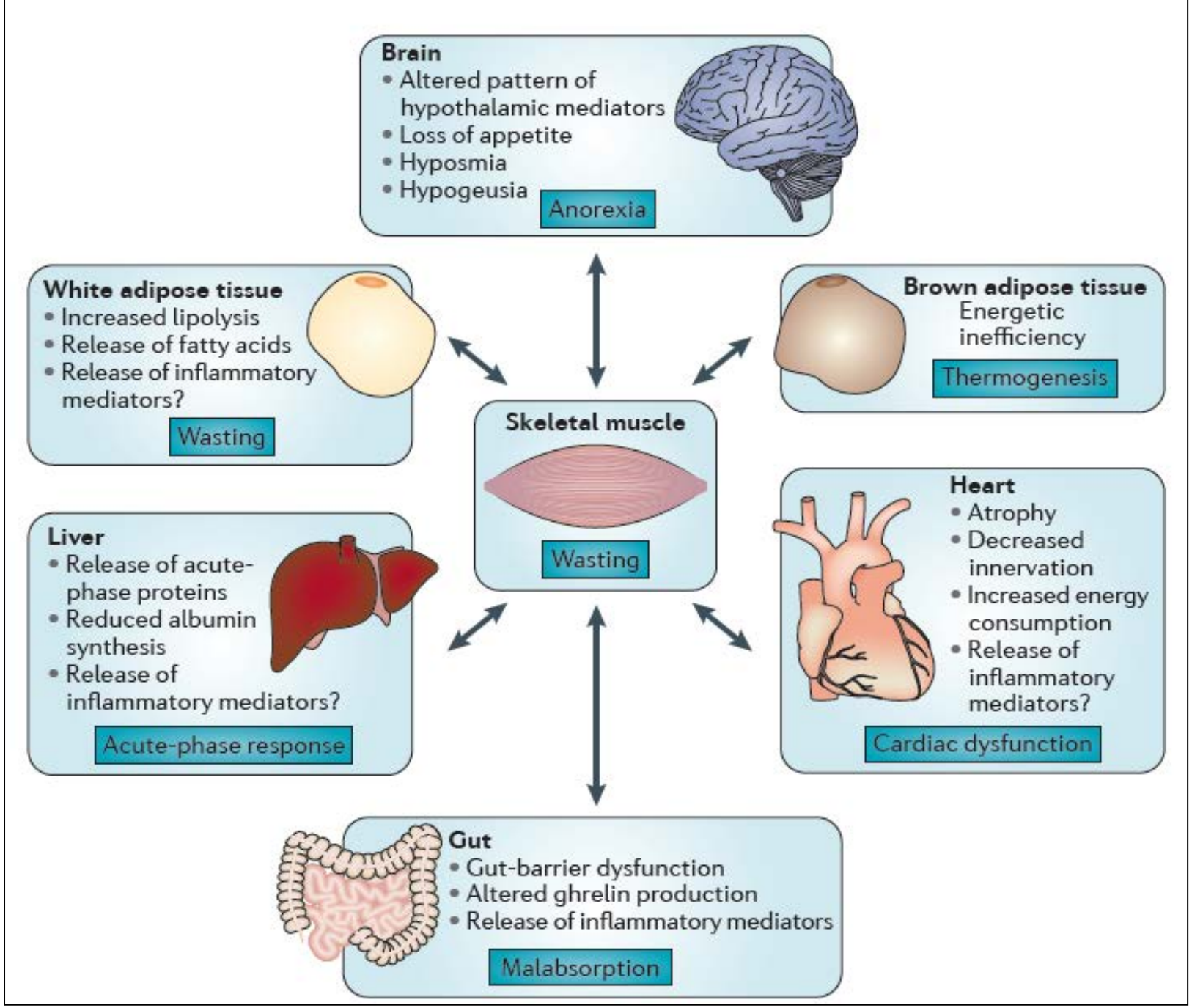
n=63

Digestive cancers



Normal

Sarcopenia



Argiles JM et al. Nat Rev Cancer 2014

Clinical Nutrition 36 (2017) 11–48

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ESPEN Guideline

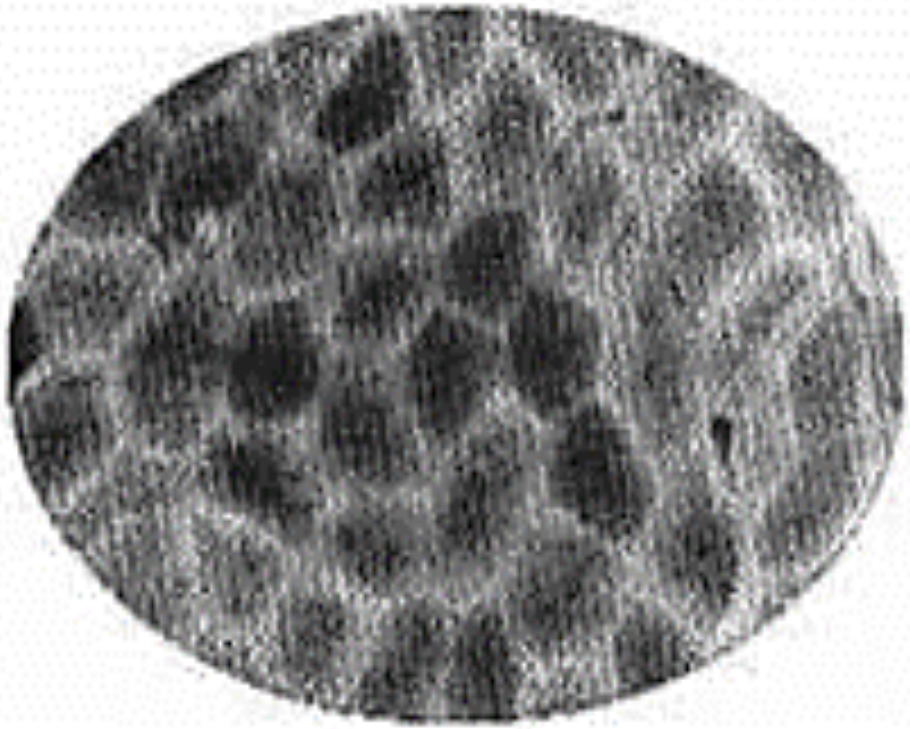
ESPEN guidelines on nutrition in cancer patients☆

Jann Arends [a], Patrick Bachmann [b], Vickie Baracos [c], Nicole Barthelemy [d], Hartmut Bertz [a], Federico Bozzetti [e], Ken Fearon [f, †], Elisabeth Hütterer [g], Elizabeth Isenring [h], Stein Kaasa [i], Zeljko Krznaric [j], Barry Laird [k], Maria Larsson [l], Alessandro Laviano [m], Stefan Mühlebach [n], Maurizio Muscaritoli [m], Line Oldervoll [i, o], Paula Ravasco [p], Tora Solheim [q, r], Florian Strasser [s], Marian de van der Schueren [t, u], Jean-Charles Preiser [v, *]

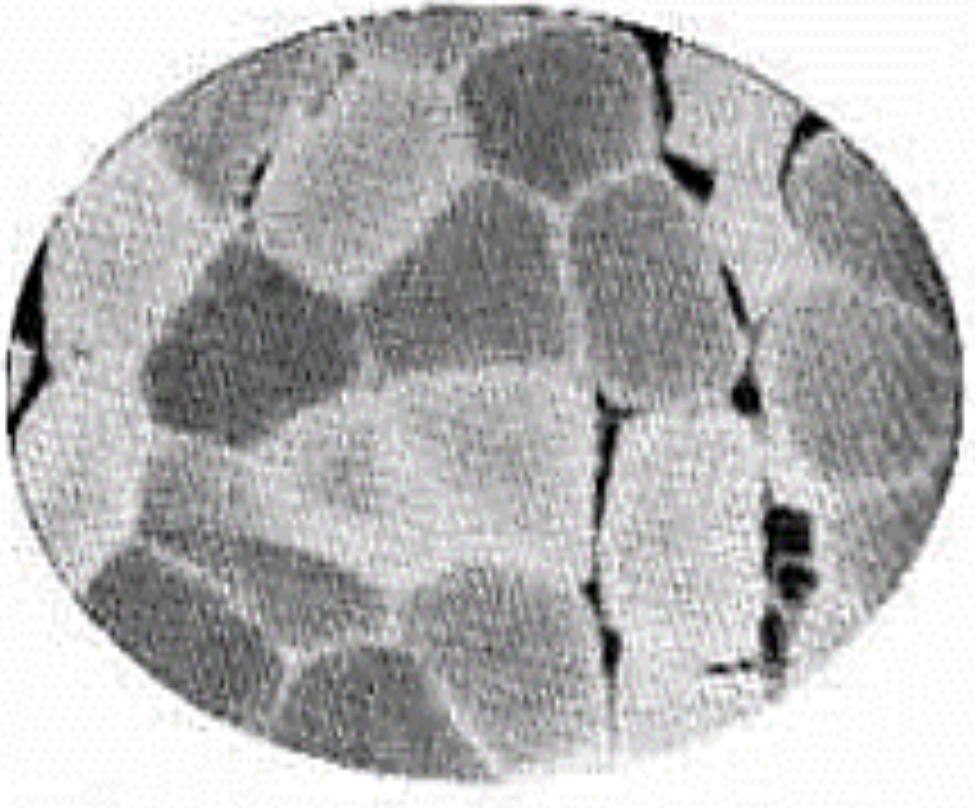
B2 – 2	Protein requirement
Strength of recommendation STRONG	*We recommend that protein intake should be above 1 g/kg/day and, if possible up to 1.5 g/kg/day*
Level of evidence	Moderate
Questions for research	effect on clinical outcome of increased supply (1–2 g/kg/day) and composition of protein/amino acids

MUSCLE MASS

normal / rest



post intake and exercise



frontiers in Nutrition

CLINICAL TRIAL
published: 18 March 2019
doi: 10.3389/fnut.2019.00022

Nutritional Counseling for Head and Neck Cancer Patients Undergoing (Chemo) Radiotherapy—A Prospective Randomized Trial

Helena Orell[1*], *Ursula Schwab*[2,3], *Kauko Saarilahti*[4], *Pia Österlund*[4], *Paula Ravasco*[5,6] and *Antti Mäkitie*[7,8,9]

Conclusions: As for our primary endpoint, individualized on-demand nutritional counseling was as efficacious as intensive counseling in preventing deterioration of nutritional status and incidence of malnutrition during (chemo) radiotherapy. This should be verified with larger number of patients. Additional findings were that overweight patients had more severe weight loss, but not poorer survival. Low HGS and malnutrition at baseline were associated with poor survival.

nutrients

Review

NUTRITION AND EXERCISE: IMPACT OF LEAN BODY MASS PRESERVATION ON HEAD AND NECK CANCER OUTCOME. A REVIEW

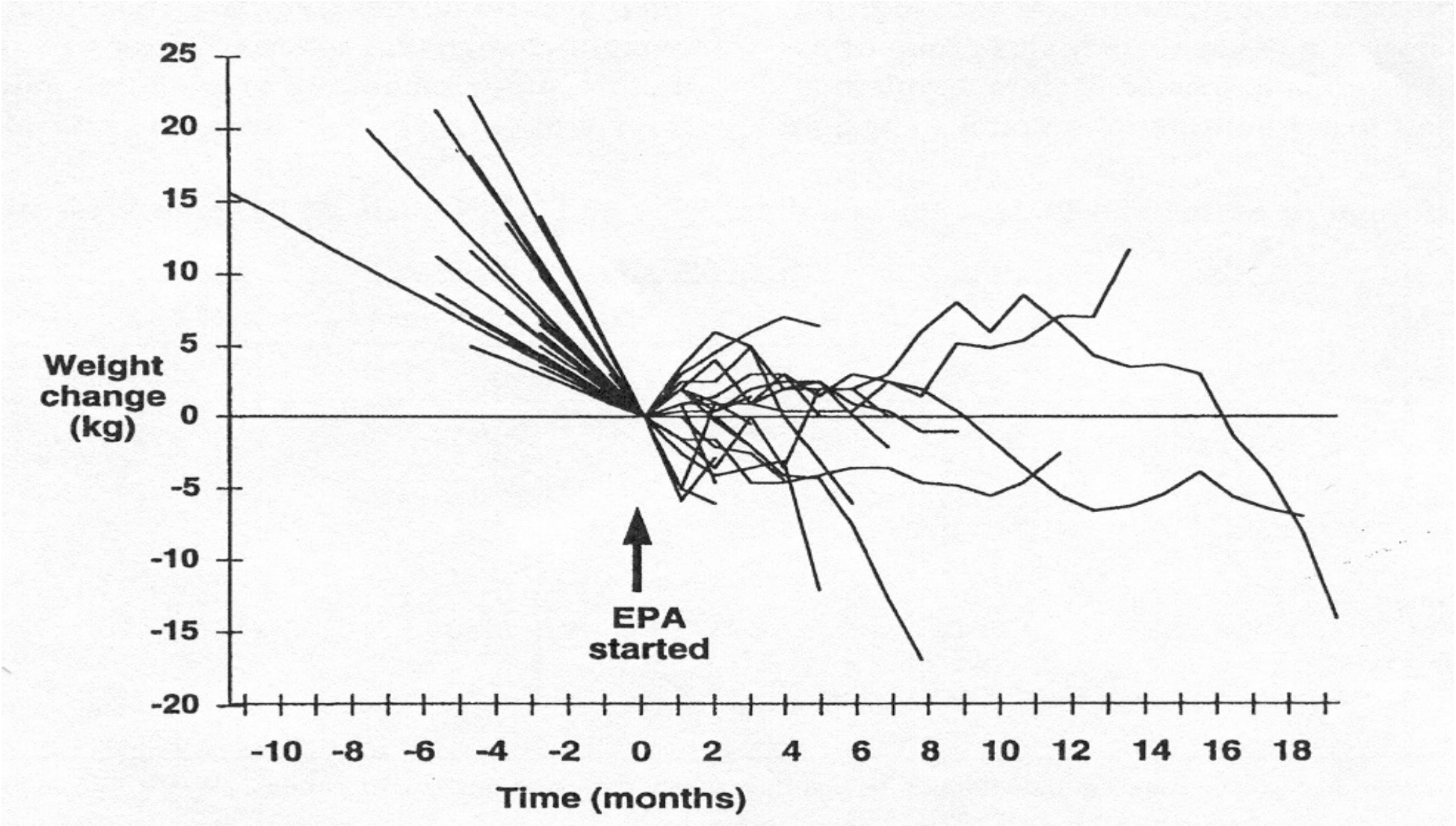
Inês Almada-Correia[1], Pedro Miguel Neves[1], Antti Mäkitie[2,3,4], Nuno Pimenta[5], Teresa Santos[6], *Paula Ravasco[1,7,8]

	Patient population	Exercise Intervention	Nutritional Intervention	Results
Lonbro et al., 2012	21 HNC (7 placebo group)	Resistance Training	Supplementation: 30g protein + 5g creatine	INCREASE IN MUSCLE MASS AND STRENGTH
Eades et al., 2011	27 HNC	Strength, endurance and flexibility	Nutritional counselling	INCREASE IN MUSCLE MASS AND STRENGTH
Gagnon et al., 2013	131 Palliative (stage III or IV): 15% HNC	Strength, endurance and flexibility	Nutritional counselling	INCREASE IN MUSCLE STRENGTH
Sandmael et al., 2017	29 HNC	Resistance Training	ONS	REDUCED MUSCLE AND WEIGHT LOSS
Naito et al., 2019	30 pancreatic and lung Cancer	Resistance Training and Step Count	Nutritional counselling and ONS	STABILIZATION IN MUSCLE MASS

	N-3 fatty acids - appetite and body weight
LoE - Low	***In cancer patients undergoing chemotherapy and weight loss, supplementation with long-chain n-3 fatty acids or fish oil <u>may</u> stabilize or improve appetite, food intake, lean body mass and body weight***
Questions for research	**? long chain n-3 fatty acids** **- body composition** **- clinical outcome in anti-neoplastic treatment** **- Quality of Life and clinical outcome in cachexia**

Arends J 2017

Effect of Oral Eicosapentanoic Acid on Weight Loss in Patients With Pancreatic Cancer



Wigmore J, et al. Nutr Cancer 2000; 36: 177

Improved treatment efficacy and survival in cancer: the role of n-3 fatty acids A systematic review

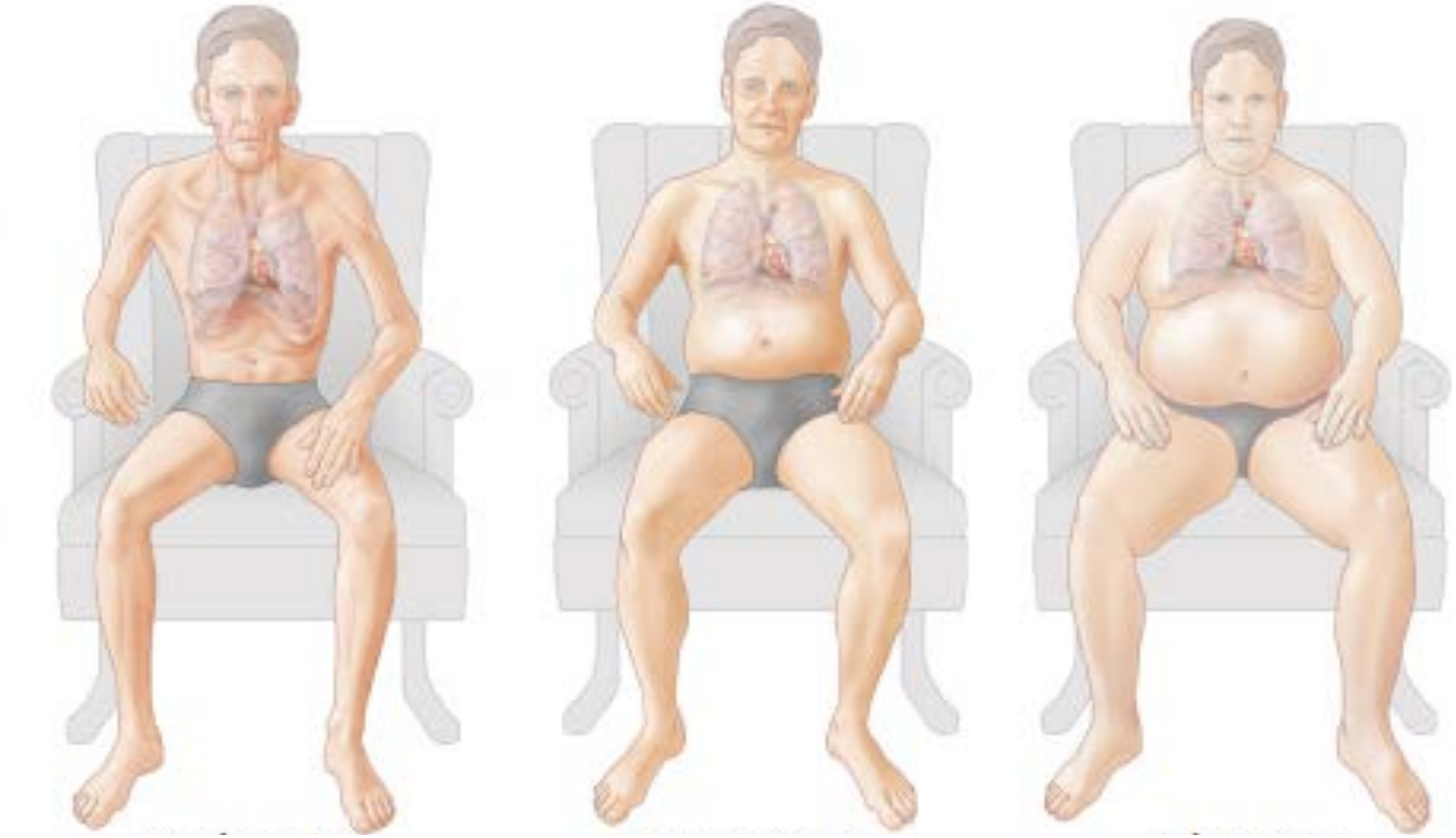
Author	Cancer	Treatment	Administration Route	PUFA	Outcome
Patterson et al. (2011)	Breast	Chemotherapy (Anthracyclines)	Dietary intake (from foods ans supplements)	Tertile with higher intakes of EPA and DHA	↓ recurrance ↑ overall survival
Bougnoux et al. (2009)	Breast	Chemotherapy (Cyclophospho-amide, 5-Fluorouracil, Epirubicin)	Nutritional oral supplements	1,8 g DHA/day/5 months	↑ time to progression. ↑ overall survival
Ghoreishi Z et al. (2012)	Breast	Chemotherapy (4 cycles) (Paclitaxel 75 mg/m2)	Nutritional oral supplements	0,2 g EPA + 1,0 g DHA/day/16 weeks	↓treatment neurotoxicity:peripheral neuropathy.
Trabal et al. (2010)	Colorectal	Chemotherapy 5-Fluorouracil + Oxaliplatin + Folinic acid OR Capecitabine	Nutritional oral supplements	2,0 g EPA + 0,9 g DHA/day/12 weeks	↑ weight ↑ QoL (specific domains) No interruptions on Chemotherapy treatment (not statistically significant)
Van Blarigan EL et al. (2019)	Colorectal	Chemotherapy	Dietary fish intake		↑ Disease Free Survival Time
Bonatto et al. (2012)	Gastric	Chemotherapy (5-Fluorouracil, Leucovorin)	Nutritional oral supplements	2 g of fish oil (0,3 g EPA and 0,4 g DHA/day).0,3 g EPA + 0,4 g DHA/day/8 weeks	↑ weight ↑ blood polymorph nuclear cells
Arshad et al. (2015)	Pancreatic	Chemotherapy (6 cycles) Gemcitabine (1000 mg/m3 weekly)	intravenous	PUFAs rich lipid emulsion (200 mg/mL)	↑ QOL (10%) in generic symptom scores and disease-specific domains ↑ Overall and progression free survival
Murphy et al. (2011)	NSCLC	Platinum-based doublet therapy.	Nutritional oral supplements Liquid Fish Oil	2,2 g EPA + 0,2 g DHA/day/10 weeks 2,2 g EPA + 0,5 g DHA/day/10 weeks	↑ chemotherapy cycles received. ↑ clinical benefit. ↑ chemotherapy response rate.
Chagas et al. (2017)	Haematological (Leukaemia and lymphoma)	Chemotherapy	Fish Oil	367 mg EPA + 243 mg DHA/day/9weeks	↑ long term survival ↑ CT tolerability (> number of cycles of CT) ↑ Nutritional Risk Index Weight maintenance

Ravasco P *et al*; under review

cachexia

↓ muscle mass

adiposity



MUSCLE LOSS

Schols A, 2020

Conclusions

Nutrition is key to improve cancer prognosis

sarcopenia/miopenia predictor worse sutvival and dose limiting toxicity

"*Optimal Nutrition Care for All*" is the patient' priority

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