

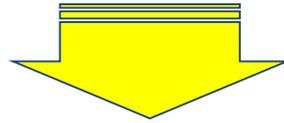
PRESA A CARICO DEL PAZIENTE ONCOLOGICO MALNUTRITO

Riccardo Caccialanza

**UOC Dietetica e Nutrizione Clinica
Fondazione IRCCS Policlinico San Matteo**

r.caccialanza@smatteo.pv.it

1. Neoadjuvant / Adjuvant / Maintenance / Palliative Chemotherapy
2. Radiation Therapy / Brachytherapy
3. Surgery
4. Radiometabolic Therapy
5. Biopharmaceutical / Hormone Therapy
6. Combined Strategies



DIAGNOSIS

TREATMENT

FOLLOW-UP

**Cancer
Prevention**

**MALNUTRITION-OBESITY
Prevention / Treatment**

**Cancer
Prevention**

Diet, nutrition, and cancer: past, present and future

Susan T. Mayne^{1,2}, Mary C. Playdon¹ and Cheryl L. Rock³

Key points

- Substantial experimental evidence indicates the potential importance of dietary and nutritional factors in cancer prevention, but identifying relationships between diet and cancer in observational epidemiological studies and intervention trials has proved challenging
- Study design issues, imprecise dietary assessments, and a lack of consideration of tumour heterogeneity generally attenuate relative-risk estimates in observational studies; dietary biomarkers and characterization of aetiological subtypes can help to better identify diet–cancer associations
- Interventional findings are constrained by the timing and brevity of intervention, nonlinear diet–cancer relationships, issues relating to baseline nutritional status, and magnitudes of change in diet that are generally insufficient to affect cancer outcomes
- Foods and eating patterns are complex, and assessment of dietary patterns, rather than the traditional reductionist approach focused on specific dietary factors, is a new and more-promising strategy for investigating relationships with cancer
- New technologies and advances in genetics, epigenetics and metabolomics, and consideration of the influence of the microbiome, will expand our understanding of the role of dietary factors in cancer risk and disease progression
- Effectively communicating the status of the evolving science, and evidence-based dietary recommendations for cancer prevention that are based on rigorous review processes should be emphasized in guidance for the public and individual patients

Diet, cancer, and NCD prevention

Panel: Recommendations for cancer prevention from the Third Expert Report

- Be a healthy weight
- Be physically active
- Eat a diet rich in wholegrains, vegetables, fruit, and beans
- Limit consumption of fast foods and other processed foods high in fat, starches, or sugars
- Limit consumption of red and processed meat
- Limit consumption of sugar sweetened drinks
- Limit alcohol consumption
- Aim to meet nutritional needs through diet alone (ie, avoid supplementation)
- For mothers: breastfeed your baby, if possible
- After a cancer diagnosis: follow these recommendations, if possible

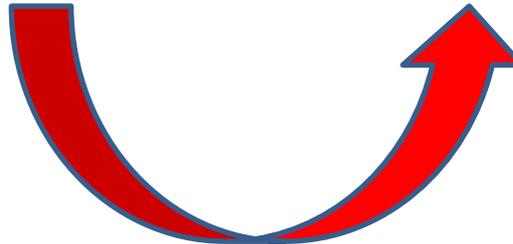
Not smoking, and avoiding other exposure to tobacco and excess sun are also important in reducing cancer risk.

Following these recommendations is likely to reduce intakes of salt, saturated, and trans fats, which together will help to prevent other non-communicable diseases.



TABLE 2. American Cancer Society Guidelines on Nutrition and Physical Activity for Cancer Survivors

Achieve and maintain a healthy weight. <ul style="list-style-type: none">• If overweight or obese, limit consumption of high-calorie foods and beverages and increase physical activity to promote weight loss.
Engage in regular physical activity. <ul style="list-style-type: none">• Avoid inactivity and return to normal daily activities as soon as possible following diagnosis.• Aim to exercise at least 150 minutes per week.• Include strength training exercises at least 2 days per week.
Achieve a dietary pattern that is high in vegetables, fruits, and whole grains. <ul style="list-style-type: none">• Follow the American Cancer Society Guidelines on Nutrition and Physical Activity for Cancer Prevention.



VIEWPOINT

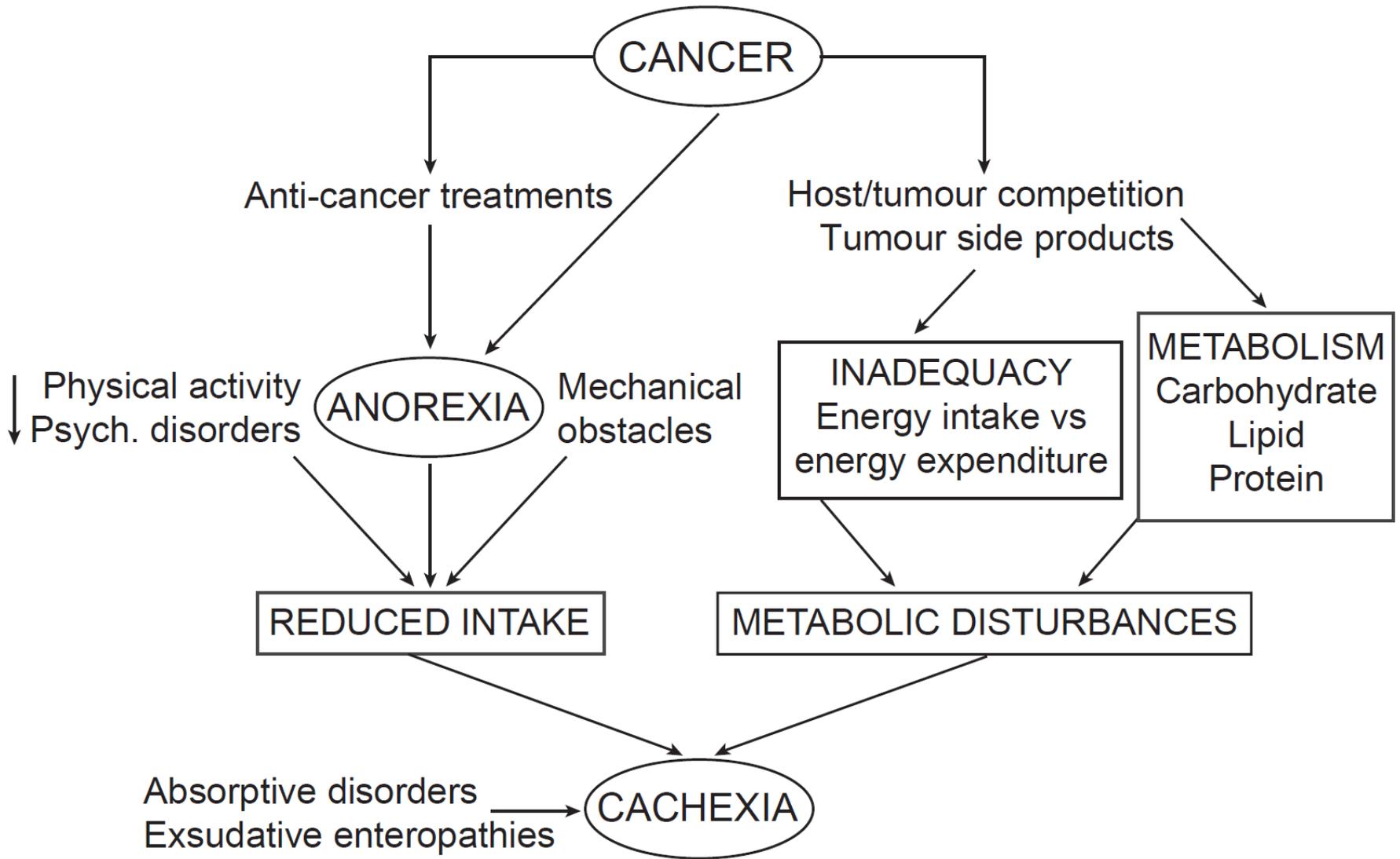
The Challenge of Reforming Nutritional Epidemiologic Research

**John P. A. Ioannidis,
MD, DSc**

Stanford Prevention
Research Center and
Meta-Research
Innovation Center at
Stanford (METRICS),
Stanford University,
Stanford, California.

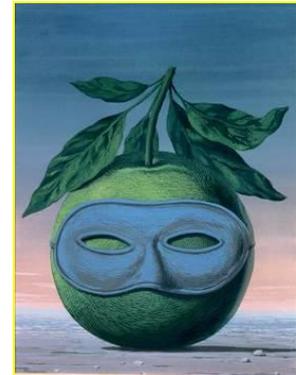
Some nutrition scientists and much of the public often consider epidemiologic associations of nutritional factors to represent causal effects that can inform public health policy and guidelines. However, the emerging picture of nutritional epidemiology is difficult to reconcile with good scientific principles. The field needs radical reform.

In recent updated meta-analyses of prospective cohort studies, almost all foods revealed statistically significant associations with mortality risk.¹ Substantial deficiencies of key nutrients (eg, vitamins), extreme overconsumption of food, and obesity from excessive calories may indeed increase mortality risk. However, can small intake differences of specific nutrients, foods, or diet patterns with similar calories causally, markedly, and almost ubiquitously affect survival?

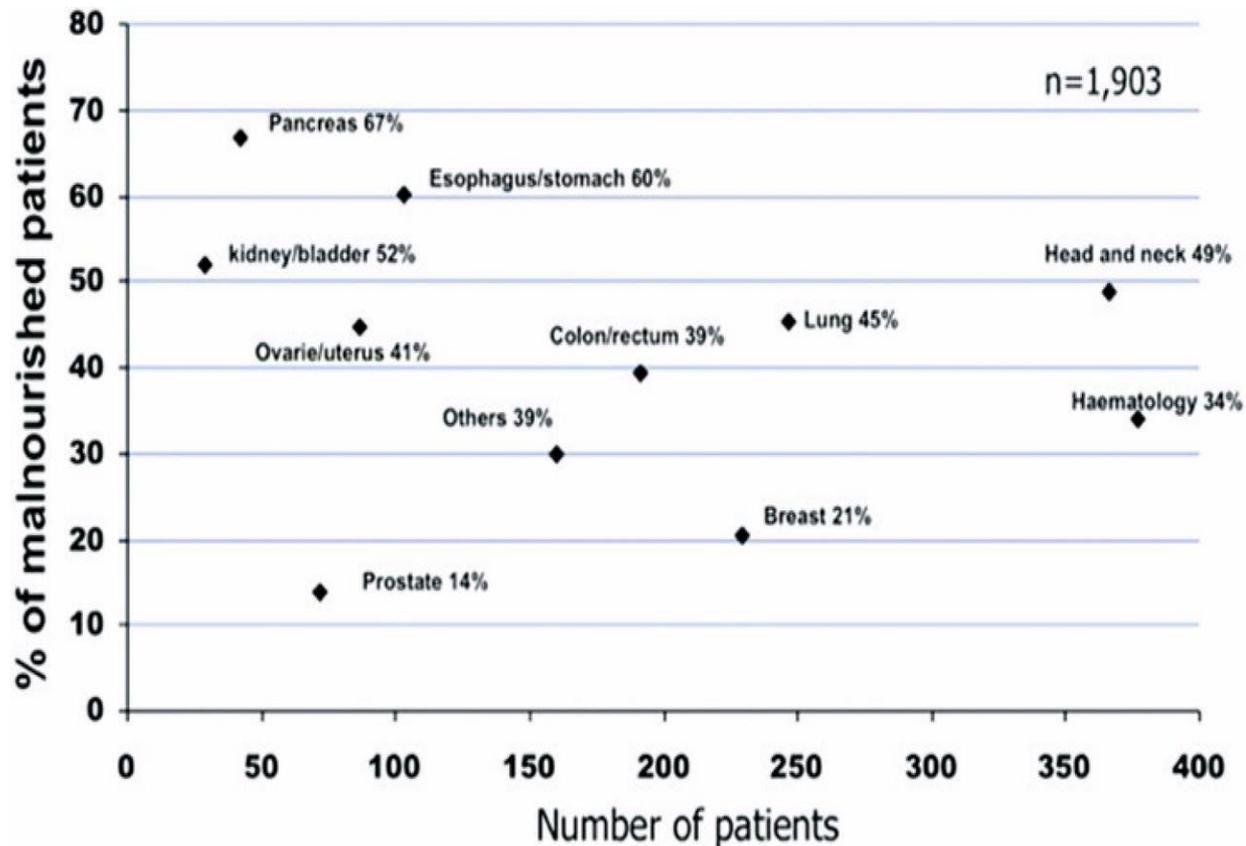


Malnutrition: consequences

- Changes in intestinal barrier
- Reduction in glomerular filtration
- Alterations in cardiac function
- Altered **drug pharmacokinetics**
- Delayed **wound healing**
- Increased **surgical complications**
- Increased **treatment toxicity**
- Impaired **immunity**
- Increase in **length of hospital stay**
- Increased **hospital readmissions**
- Increase in **mortality**
- Increased **treatment costs**
- Impaired **quality of life and functional status**



Prevalence of malnutrition in cancer patients



**Nutrition day in 154
French hospitals
1903 pts (1109M; 794F)**

- Pancreas.....67%
- Esophagus/gastric...60%
- Colon/rectum..... 39%

Malnutrition

Prevalence of malnutrition in patients at first medical oncology visit: the PreMiO study

Maurizio Muscaritoli¹, Simone Lucia¹, Alessio Farcomeni², Vito Lorusso³, Valeria Saracino³, Carlo Barone⁴, Francesca Plastino⁴, Stefania Gori⁵, Roberto Magarotto⁵, Giacomo Carteni⁶, Bruno Chiurazzi⁶, Ida Pavese⁷, Luca Marchetti⁷, Vittorina Zagone⁸, Eleonora Bergo⁹, Giuseppe Tonini⁹, Marco Imperatori⁹, Carmelo Iacono¹⁰, Luigi Maiorana¹⁰, Carmine Pinto¹¹, Daniela Rubino¹¹, Luigi Cavanna¹², Roberto Di Cicilia¹², Teresa Gamucci¹³, Silvia Quadrini¹³, Salvatore Palazzo¹⁴, Stefano Minardi¹⁴, Marco Merlano¹⁵, Giuseppe Colucci¹⁶ and Paolo Marchetti^{17,18}, on behalf of the PreMiO Study Group¹⁹

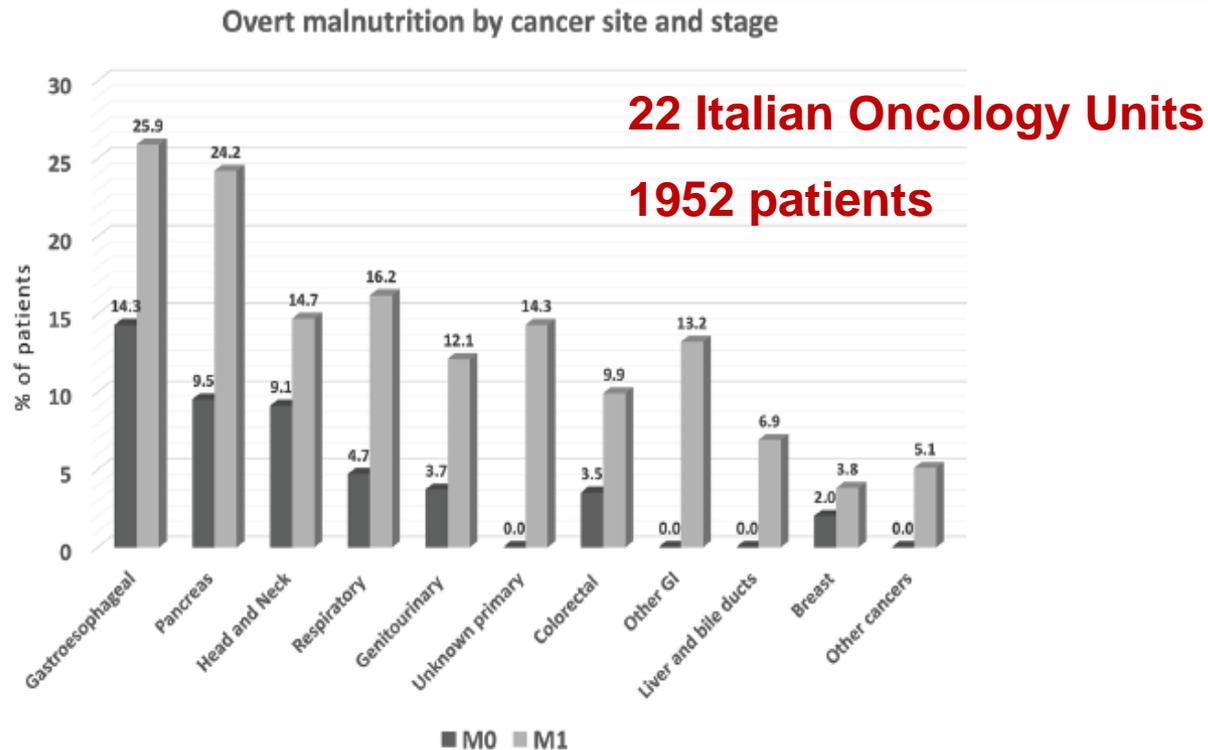


Figure 3: Prevalence of overt malnutrition by cancer site (% of patients with specified tumor type), with malnutrition defined as MNA score <17 (N=1925). M0 = stage I-III, M1 = stage IV. $P < 0.001$ among cancer site groups.

Cachexia

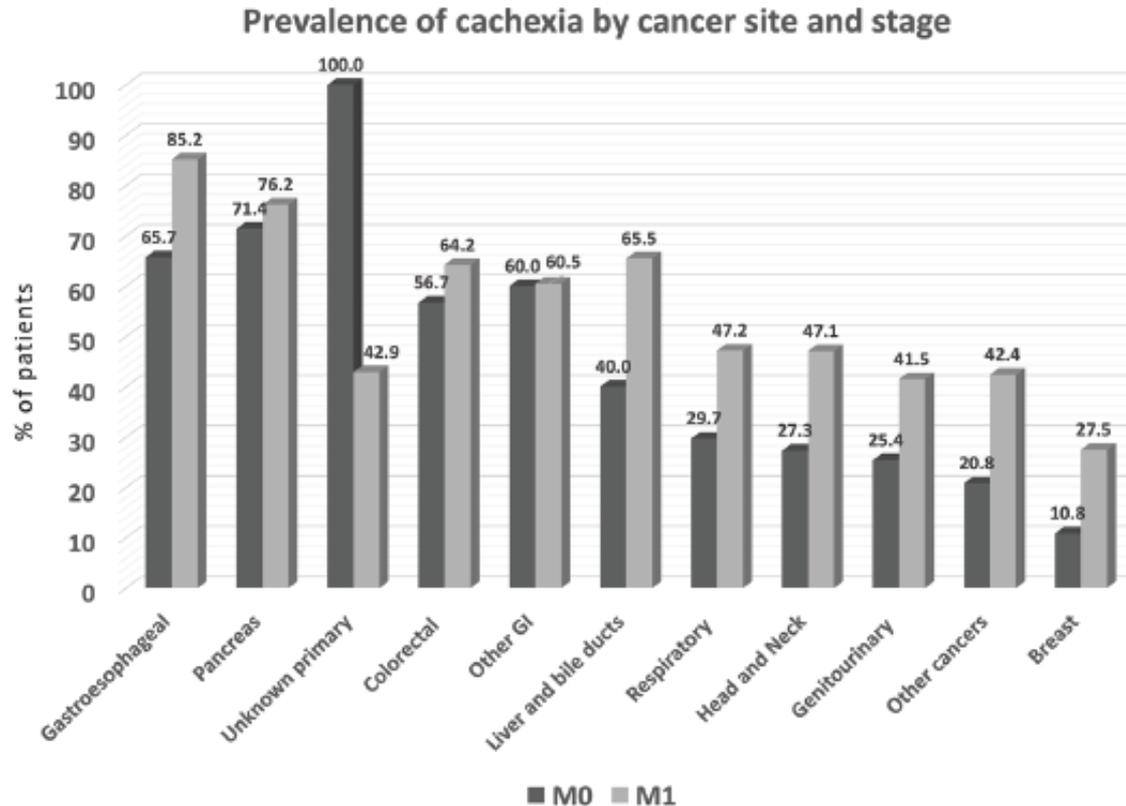
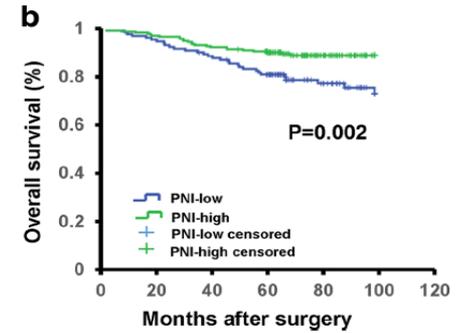
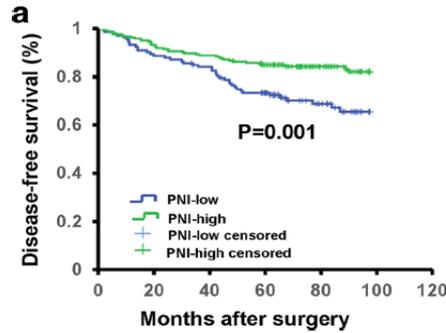


Figure 4: Prevalence of cachexia by primary tumor type in the study population (N=1952). Cachexia is defined by weight loss >5% or by the dual criteria of BMI <20 with weight loss of 2% to 5%. M0 = stage I-III, M1 = stage IV. $P < 0.001$ among cancer site groups.

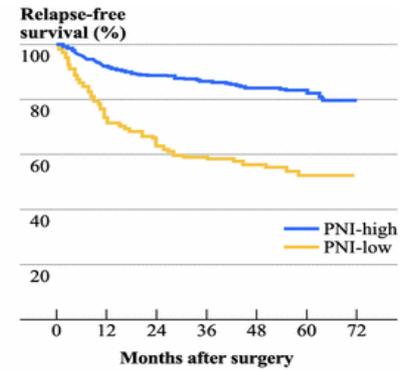
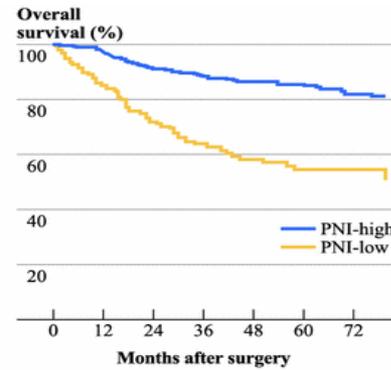
Pre-operative prognostic nutritional index predicts the outcomes for triple-negative breast cancer

Zhengjun Yang · Bin Zhang · Likun Hou · Yegong Xie · Xuchen Cao



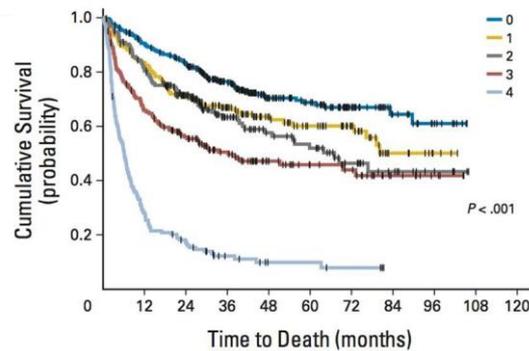
The Prognostic Nutritional Index Predicts Long-term Outcomes of Gastric Cancer Patients Independent of Tumor Stage

Kazuhiro Migita, MD¹, Tomoyoshi Takayama, MD¹, Keigo Saeki, MD², Sohei Matsumoto, MD¹, Kohei Wakatsuki, MD¹, Koji Enomoto, MD¹, Tetsuya Tanaka, MD¹, Masahiro Ito, MD¹, Norio Kurumatani, MD², and Yoshiyuki Nakajima, MD¹

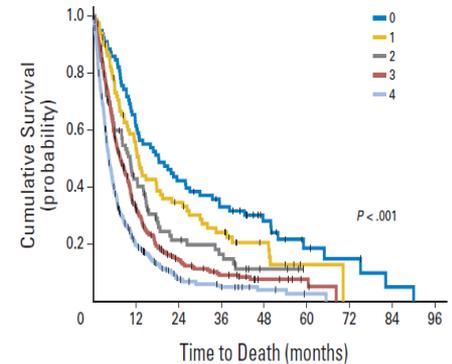


Diagnostic Criteria for the Classification of Cancer-Associated Weight Loss

Lisa Martin, Pierre Senesse, Ioannis Gioulbasanis, Sami Antoun, Federico Bozzetti, Chris Deans, Florian Strasser, Lene Thoresen, R. Thomas Jagoe, Martin Chasen, Kent Lundholm, Ingvar Bosaeus, Kenneth H. Fearon, and Vickie E. Baracos

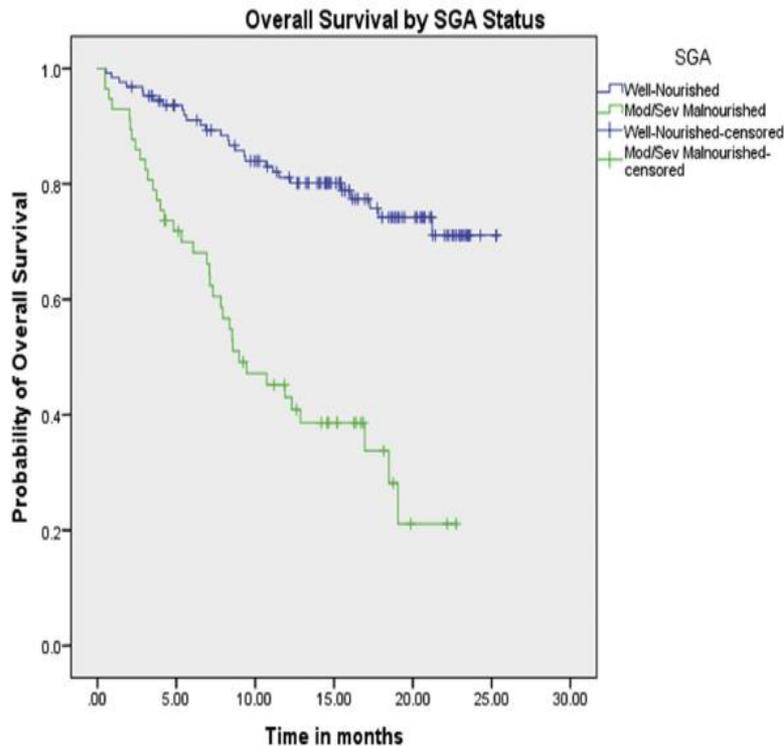


Head and Neck



GI

Chemotherapy dose intensity predicted by baseline nutrition assessment in GI malignancies



Median overall survival: Well-nourished – not reached; Malnourished – 9.0 months, 95% CI 5.128 – 12.811; $P < 0.0001$ by log-rank test

Prospective study

184 patients with GI cancer candidates to first-line CT

✓ Evaluation with SGA

Malnourished 31%

✓ Reduced initial dose

67% malnourished

35% not malnourished

✓ Total planned dose

80% vs. 90%

✓ Median survival

19 months

Malnourished

8.5 months

Not malnourished

Not reached

Sarcopenic Obesity Is Associated with Severe Postoperative Complications in Gastric Cancer Patients Undergoing Gastrectomy: a Prospective Study

Wei-teng Zhang¹ · Ji Lin¹ · Wei-sheng Chen¹ · Yun-shi Huang¹ · Rui-sen Wu¹ · Xiao-dong Chen¹ · Neng Lou¹ · Chu-huai Chi¹ · Chang-yuan Hu¹ · Xian Shen^{1,2} 



Survival impact of postoperative body mass index in gastric cancer patients undergoing gastrectomy

Han Hee Lee^a, Jae Myung Park^{a,*}, Kyo Young Song^b, Myung-Gyu Choi^a, Cho Hyun Park^b

Does high body mass index negatively affect the surgical outcome and long-term survival of gastric cancer patients who underwent gastrectomy: A systematic review and meta-analysis

Bochao Zhao, Jingting Zhang, Di Mei, Rui Luo, Huiwen Lu, Huimian Xu, Baojun Huang*

Implications of overweight in gastric cancer: A multicenter study in a Western patient population

J. Kulig^{a,*}, M. Sierzega^a, P. Kolodziejczyk^a, J. Dadan^b, M. Drews^c, M. Fraczek^d, A. Jeziorski^e, M. Krawczyk^d, T. Starzynska^f, G. Wallner^g
on behalf of the Polish Gastric Cancer Study Group

Weight Management and Its Role in Breast Cancer Rehabilitation*

Wendy Demark-Wahnefried, PhD, RD¹; Kristin L. Campbell, PT, PhD²; and Sandra C. Hayes, PhD³



≠ HISTOTYPES ≠ STAGES

Medicine (2018) 97:26

Medicine[®]

Systematic Review and Meta-Analysis

OPEN

Body mass index and prognosis of breast cancer An analysis by menstruation status when breast cancer diagnosis

Li Sun, MM^a, Yulan Zhu, MB^a, Qi Qian, MM^a, Liming Tang, MD, PhD^{b,*}

Current Oncology Reports (2019) 21: 41
<https://doi.org/10.1007/s11912-019-0787-1>

BREAST CANCER (B OVERMOYER, SECTION EDITOR)

The Impact of Obesity on Breast Cancer Diagnosis and Treatment

Kyuwan Lee¹ · Laura Kruper² · Christina M. Dieli-Conwright¹ · Joanne E. Mortimer^{3,4}

Current Oncology Reports (2018) 20: 47
<https://doi.org/10.1007/s11912-018-0688-8>

BREAST CANCER (B OVERMOYER, SECTION EDITOR)

The Impact of Obesity on Breast Cancer

Daniel F. Argolo¹ · Clifford A. Hudis^{2,3} · Neil M. Iyengar^{2,3}

Nutrients 2019, 11, 1514; doi:10.3390/nu11071514



nutrients



Review

Nutrition and Breast Cancer: A Literature Review on Prevention, Treatment and Recurrence

Paola De Cicco¹ , Maria Valeria Catani², Valeria Gasperi², Matteo Sibilano², Maria Quaglietta² and Isabella Savini^{2,*}

Elwood et al. BMC Cancer (2018) 18:76
DOI 10.1186/s12885-017-3971-4

BMC Cancer

RESEARCH ARTICLE

Open Access



Obesity and breast cancer outcomes in chemotherapy patients in New Zealand – a population-based cohort study

J. Mark Elwood^{1*} , Sandar Tin Tin¹, Marion Kuper-Hommel², Ross Lawrenson^{2,3} and Ian Campbell²

www.oncotarget.com

Oncotarget, 2019, Vol. 10, (No. 33), pp: 3088-3092

Research Perspective

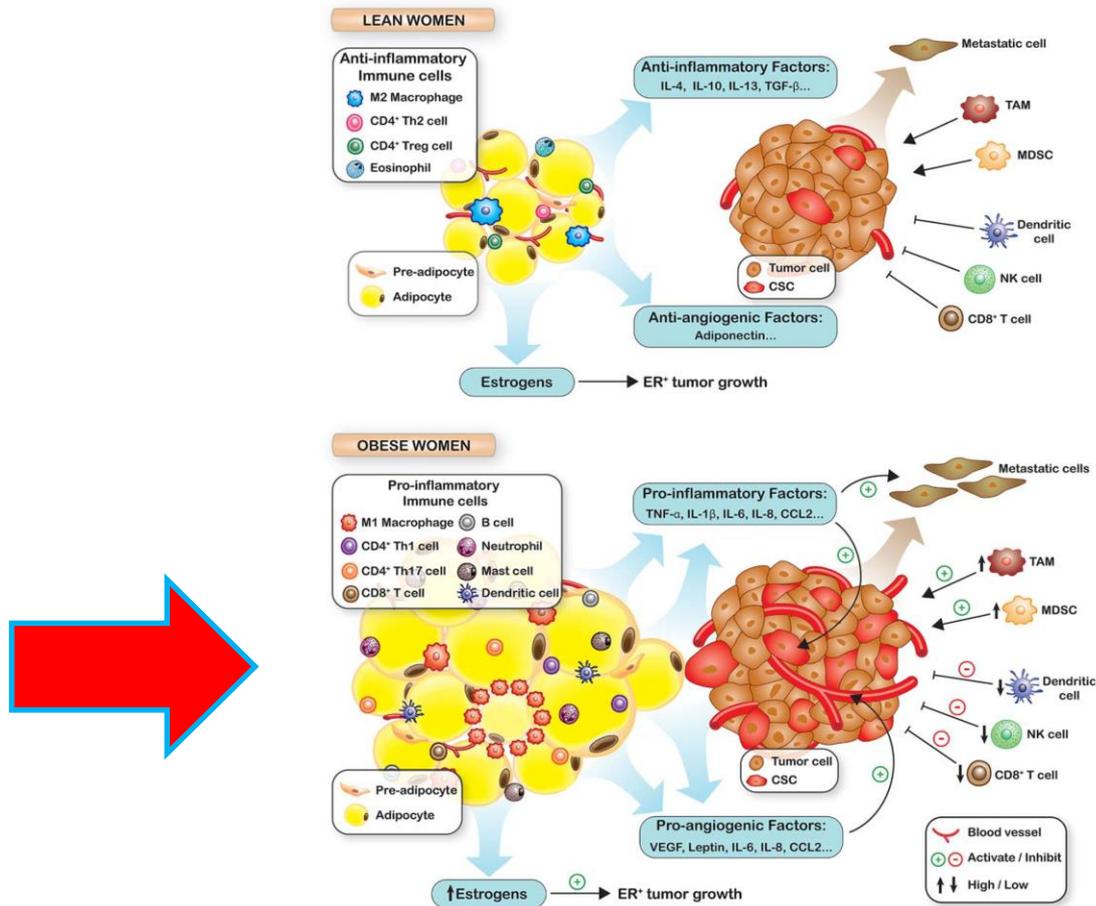
Weight loss, diet composition and breast cancer incidence and outcome in postmenopausal women

Kathy Pan¹, Juhua Luo², Aaron K. Aragaki³ and Rowan T. Chlebowski¹

Obesity and Adverse Breast Cancer Risk and Outcome: Mechanistic Insights and Strategies for Intervention

Manuel Picon-Ruiz, PhD¹; Cynthia Morata-Tarifa, PhD²; Janeiro J. Valle-Goffin, MD³; Eitan R. Friedman, MD⁴; Joyce M. Slingerland, MD, PhD ^{5,6,7}

Breast Cancer, Inflammation, and Obesity

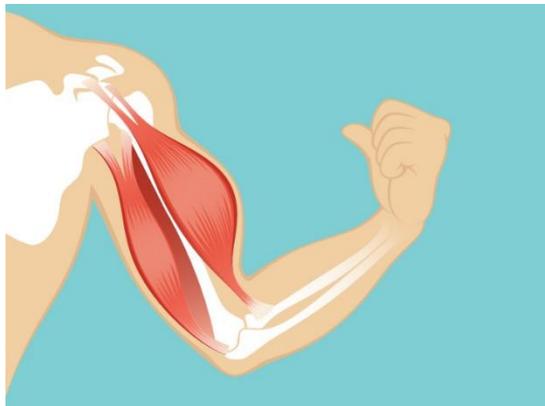


Weight gain in breast cancer survivors: prevalence, pattern and health consequences

V. Vance¹, M. Mourtzakis², L. McCargar³ and R. Hanning¹

obesity reviews (2011) **12**, 282–294

Several studies have reported unfavourable changes in body composition, with or without weight gain, in this population; sarcopenic obesity, characterized by high body fat and low lean body mass is prevalent. This unique pattern of weight gain and/or change in body composition is distressing for most women, poses significant risk for the development of comorbid conditions and may impact on long term disease-free survival.

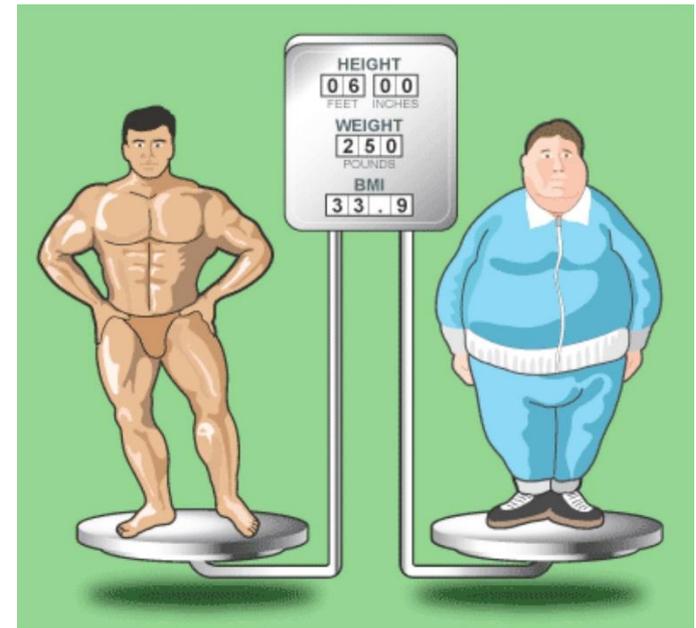


Clinical implication of changes in body composition and weight in patients with early-stage and metastatic breast cancer



Ilaria Trestini^{a,1}, Luisa Carbognin^{a,1}, Sara Monteverdi^a, Sara Zanelli^a, Alessandro De Toma^a, Clelia Bonaiuto^a, Rolando Nortilli^a, Elena Fiorio^a, Sara Pilotto^a, Massimo Di Maio^b, Antonio Gasbarrini^c, Giovanni Scambia^d, Giampaolo Tortora^{a,2}, Emilio Bria^{e,*,2}

With regard to body composition parameters, the majority of evidence supports a prognostic role of muscle and fat mass. Particularly, the sarcopenia, a frequent underrecognized condition in both metastatic and early BC patients, seems to be associated with an increased risk of recurrence and death.



Management of clinical nutrition in oncology

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 Kaasaⁱ, Zeljko Krznaric^j, Barry Laird^k, Maria Larsson^l, Alessandro Laviano^m, Stefan Mühlebachⁿ, 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,*}

Nutritional Support in Cancer Patients: A Position Paper from the Italian Society of Medical Oncology (AIOM) and the Italian Society of Artificial Nutrition and Metabolism (SINPE)

Riccardo Caccialanza^{1,□}, Paolo Pedrazzoli², Emanuele Cereda¹, Cecilia Gavazzi³, Carmine Pinto⁴, Agostino Paccagnella⁵, Giordano Domenico Beretta⁶, Mariateresa Nardi⁷, Alessandro Laviano⁸ and Vittorina Zagonel⁹

A.S.P.E.N. Clinical Guidelines: Nutrition Support Therapy During Adult Anticancer Treatment and in Hematopoietic Cell Transplantation

David Allen August, MD¹; Maureen B. Huhmann, DCN, RD, CSO²; and the American Society for Parenteral and Enteral Nutrition (A.S.P.E.N.) Board of Directors

ESPEN GUIDELINES

ESPEN Guidelines on Enteral Nutrition: Non-surgical oncology[☆]

J. Arends^{a,*}, G. Bodoky^b, F. Bozzetti^c, K. Fearon^d, M. Muscaritoli^e, G. Selga^f, M.A.E. van Bokhorst-de van der Schueren^g, M. von Meyenfeldt^h, DGEM: ^{☆ ☆} G. Zürcher, R. Fietkau, E. Aulbert, B. Frick, M. Holm, M. Kneba, H.J. Mestrom, A. Zander

ESPEN Guidelines on Parenteral Nutrition: Non-surgical oncology

F. Bozzetti^a, J. Arends^b, K. Lundholm^c, A. Micklewright^d, G. Zurcher^e, M. Muscaritoli^f

Arends J, et al. *Clin Nutr* 2017;36:11–48; Caccialanza R, et al. *J Cancer* 2016;7:131–5; August DA, et al. *J Parenter Enteral Nutr* 2009;33:472–500; Bozzetti F, et al. *Clin Nutr* 2009;28:445–54; Arends J, et al. *Clin Nutr* 2006;25:245–59.



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,g}, 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 ^{l,o}, Paula Ravasco ^p, Tora Solheim ^{q,r}, Florian Strasser ^s, Marian de van der Schueren ^{t,u}, Jean-Charles Preiser ^{v,*}



A3. Aims of nutrition therapy

7: Nutrition and metabolic interventions aim to maintain or improve food intake and mitigate metabolic derangements, maintain skeletal muscle mass and physical performance, reduce the risk of reductions or interruptions of scheduled anticancer treatments, and improve quality of life.



ESPEN Guidelines for Nutritional Screening

- Malnutrition Universal Screening Tool (MUST)
- Nutritional Risk Screening (NRS 2002)
- Mini Nutritional Assessment (MNA)
- Geriatric Nutrition Risk Index (GNRI)

Data Required to Complete Nutrition Screening Tools Evaluated in the Nutrition Screening Evidence Analysis Project

Table 3. Data Required to Complete Nutrition Screening Tools Evaluated in the Nutrition Screening Evidence Analysis Project

Criteria	Tools									
	NRS-2002 ¹⁹	MNA-SF ²⁰	MST ²²	NST/ BAPEN ^{4,26}	MUST ²⁴	Simple Two- Part Tool ²²	NRS ²⁷	SCREEN-II AB ²⁹	Rapid Screen ²⁹	Tool #1 ³⁰
Recent unintentional weight loss	x	x	x	x	x	x	x		x	x
Appetite		x	x	x			x	x		
Body mass index	x				x		x		x	x
Disease severity	x	x			x		x			
Age >70 y	x									
Weight				x						
Height				x						
Weight gain or loss								x		
Subcutaneous fat loss						x				
Impaired general condition	x									
Housebound		x								
Meal preparation habits and eating alone								x		
Dementia or depression		x								
Food intake or eating problem; skipping meals		x		x	x			x		
Ability to eat and retain food							x			
Intake of fluid/fruits and vegetables								x		

MNA-SF, Mini-Nutritional Assessment–Short Form; MST, Malnutrition Screening Tool; MUST, Malnutrition Universal Screening Tool; NRS, Nutritional Risk Screening; NST/BAPEN4, Nutrition Screening Tool/British Association of Parenteral and Enteral Nutrition; SCREEN-II AB, Seniors in the Community: Risk Evaluation for Eating and Nutrition, Version II, abbreviated version.

Nutritional approaches in cancer: Relevance of individualized counseling and supplementation



Paula Ravasco M.Sc., R.D., M.D., Ph.D. *

P. Ravasco / Nutrition 31 (2015) 603–604

Laboratório de Nutrição of the Faculdade de Medicina de Lisboa and Hospital Universitário de Santa Maria, Lisboa, Portugal

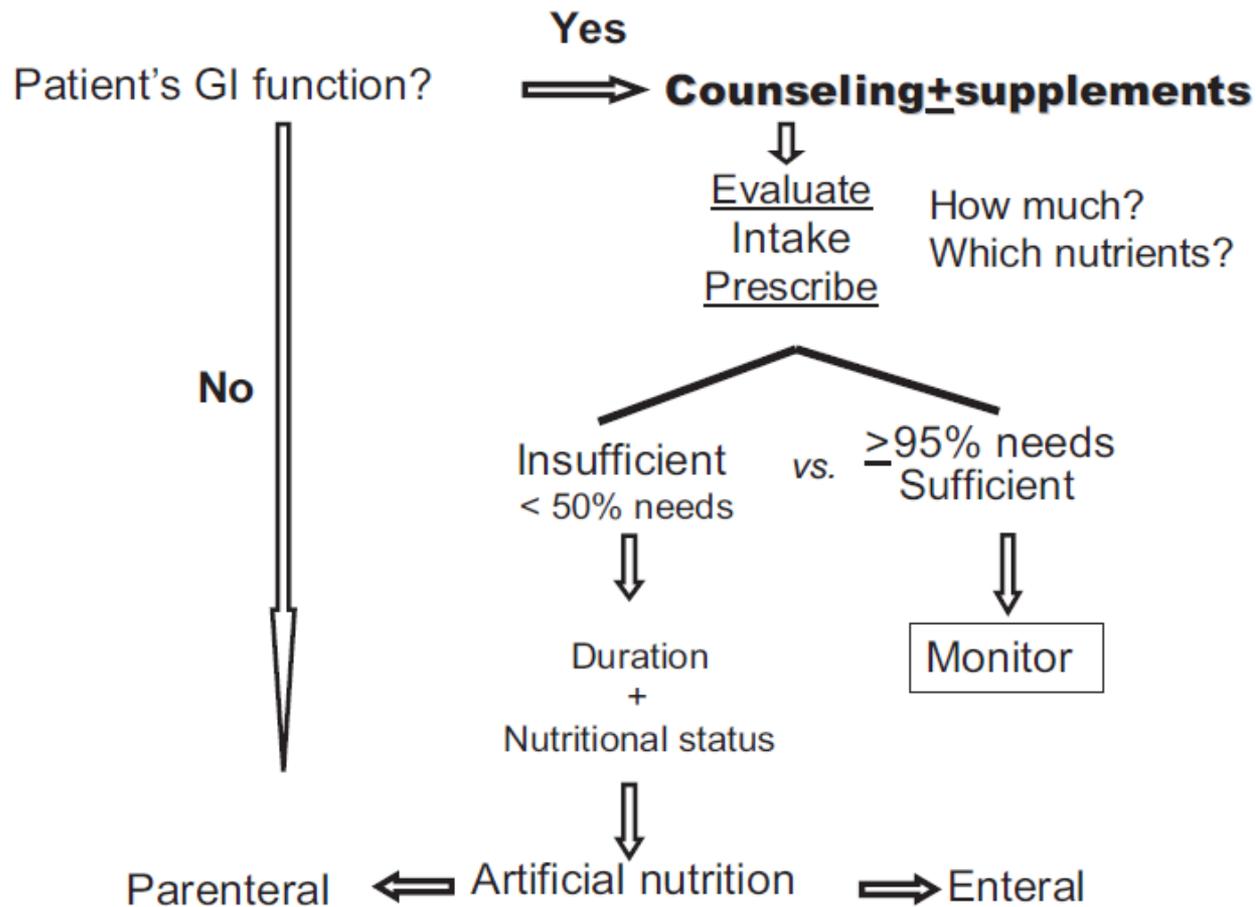


Fig. 1. Evidence-based decision-making plan.



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,g}, Elisabeth Hütterer ^h, 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 ^{l,o}, Paula Ravasco ^p, Tora Solheim ^{q,r}, Florian Strasser ^s, Marian de van der Schueren ^{t,u}, Jean-Charles Preiser ^{v,w}

Section B2 Energy and substrate requirements

B2 – 1

Energy requirements

Strength of recommendation
STRONG *We recommend, that total energy expenditure of cancer patients, if not measured individually, be assumed to be similar to healthy subjects and generally ranging between 25 and 30 kcal/kg/day.*

Level of evidence Low

Questions for research improve prediction of energy requirements in the individual patient

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

NUTRITIONAL COUNSELING: DIETARY MODIFICATIONS



Anticancer Treatment
Side Effects



Nutritional
Requirements



NUTRITIONAL
COUNSELING



Food Habits
Diet Modification



Life Style &
Quality of Life



PHYSICAL ACTIVITY:



**PHYSICAL ACTIVITY PYRAMID
FOR ADULTS**



Nutrition impact symptoms and associated outcomes in post-chemoradiotherapy head and neck cancer survivors: a systematic review

Sylvia L. Crowder¹ · Katherine G. Douglas¹ · M. Yanina Pepino¹ · Kalika P. Sarma² · Anna E. Arthur^{1,2}

Received: 24 October 2017 / Accepted: 1 March 2018

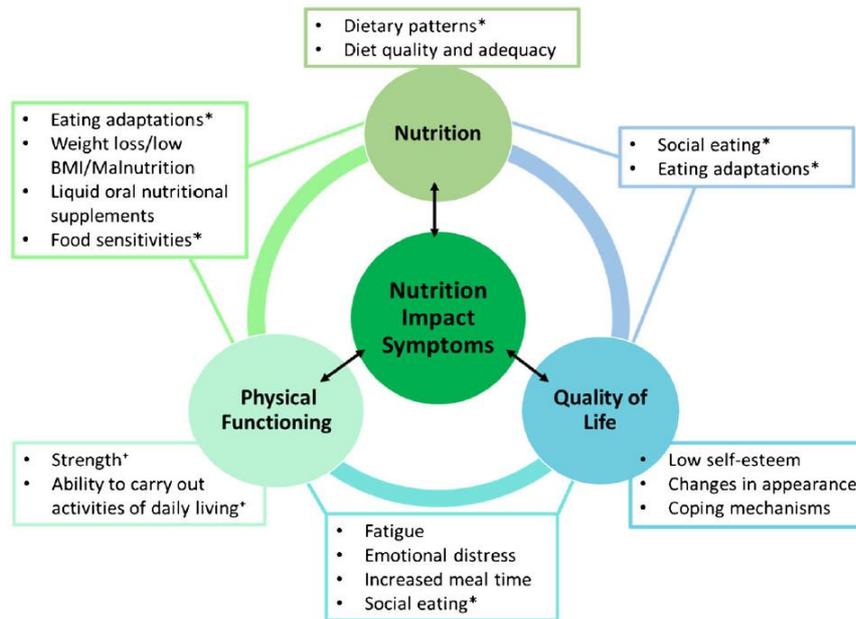


Table 5 Main takeaway points

- The most common NIS reported in post-treatment survivors was dysphagia (73%) followed by xerostomia (36%), trismus (36%), salivary issues (36%), mucositis (13%), and oral pain (13%)
- 4 out of 5 studies that tracked survivors for ≥ 5 years reported a reduced quality of life in those unable to consume a normal diet
- Alleviating the substantial NIS burden experienced by HNC survivors is essential, but is an understudied component of the overall survivorship care plan for head and neck cancer
- Despite the small number of studies conducted and the substantial heterogeneity in study designs across them, as a whole, the studies reviewed suggest NIS are prevalent in HNC beyond the acute phase of treatment and may lead to a reduction in quality of life
- It is possible that survivors experiencing increased symptom burden or those struggling to cope with NIS may have been more likely to participate in the 15 research studies reviewed, and therefore, selection bias may have occurred and should be considered with interpreting results
- Standardization of assessment tools is necessary to screen for unmet needs in this survivor population with the primary goal of providing interventions to reduce NIS and increase quality of life

ESPEN Guidelines on Nutrition in Cancer Patients



C3 – 1	Medical oncology: Ensuring adequate nutrition
Strength of recommendation: STRONG	During anticancer drug treatment we recommend to ensure an adequate nutritional intake and to maintain physical activity.
Level of evidence	Very low

C3 – 2	Medical oncology: Use of enteral and parenteral nutrition
Strength of recommendation: STRONG	In a patient undergoing curative anticancer drug treatment, if oral food intake is inadequate despite counselling and oral nutritional supplements (ONS), we recommend supplemental enteral or, if this is not sufficient or possible, parenteral nutrition.
Level of evidence	Very low

Arends J, et al. *Clin Nutr.* 2017;36(1):11-48.

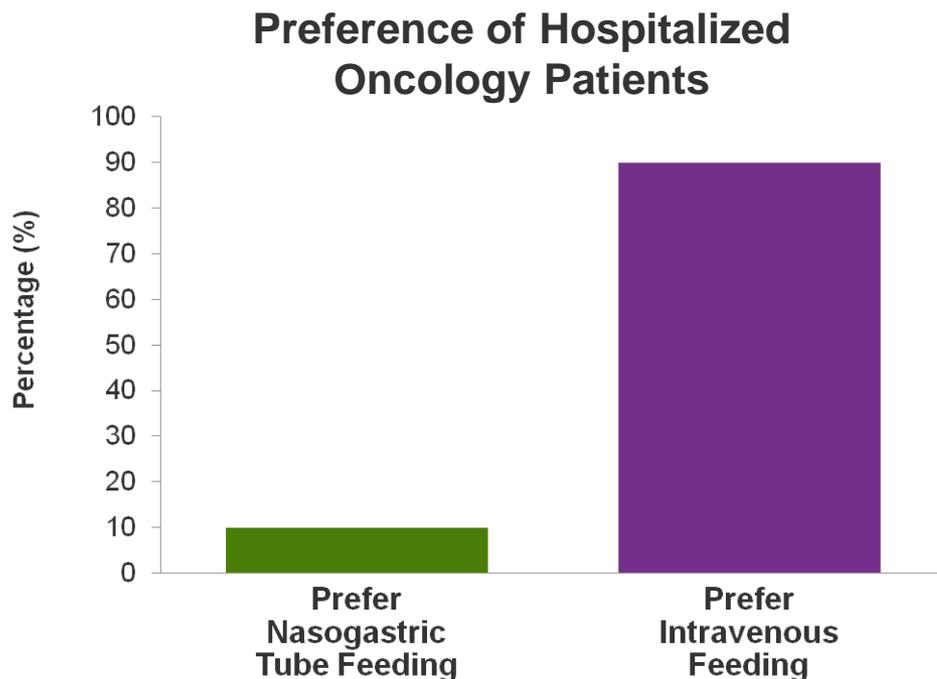
PN During Chemotherapy

If patients develop GI toxicity from chemotherapy or radiation therapy, short-term **PN is usually better tolerated** (and more efficient) **than EN** to restore the intestinal function and prevent nutritional deterioration



Supplemental PN can provide a median amount of 1000-1250 kcal per day, from 3 to 6 times per week

Patient Perception of the Comfort of the Feeding Method



- 101 hospitalized oncology patients completed written questionnaire
- 91% of patients prefer intravenous feeding versus nasogastric tube feeding



Nutritional interventions in elderly gastrointestinal cancer patients: the evidence from randomized controlled trials

Federico Bozzetti¹ 

Abstract

Literature concerning nutritional interventions in elderly patients with gastrointestinal cancer, with special reference to randomized clinical trials, has been critically reviewed. This segment of oncologic population was found to be penalized by a high prevalence of malnutrition and sarcopenia which translated in an increased rate of toxicity from chemotherapy, poor compliance with oncologic treatments, and, finally, with a poor prognosis. Attempts to reverse this condition included a potentiation of nutrients intake which should sequentially proceed through the use of dietary counseling and administration of standard or ω -3 fatty acid–enriched oral supplements to finally come to enteral or parenteral nutrition. Randomized clinical trials investigating the effects of simple dietary advice and use of standard oral supplements were disappointing as regards long-term compliance and results. Nutritional and clinical benefits were reported with the use of ω -3 fatty acid–enriched oral supplements and especially with long-term supplemental parenteral nutrition. Despite the general recommendation of the scientific community that emphasizes the use of the enteral route, whenever possible, for delivering the nutritional support, it appears from the literature that more consistent benefits can be achieved, especially in the long-term nutritional support, when an insufficient oral nutrition is partnered with intravenous nutrition.

Prevalence of Malnutrition and Current Use of Nutrition

Nutrition Support

Disease State (n)	% of Patients with Nutrition Support	% of Malnourished Patients with Nutrition Support	% of Non-Malnourished Patients with Nutrition Support	% Receiving Oral Supplements	% Receiving Enteral Nutrition	% Receiving Parenteral Nutrition
Blood (377)	34.5	44.5	29.3	20.3	9.5	16.2
Head and Neck (366)	63.7	76.5	51.3	36.4	40.4	6.1
Lung (247)	42.9	55.4	32.6	38.8	11.1	8.1
Breast (229)	14.8	34.0	9.89	12.3	5.2	4.1
Colon/Rectum (191)	30.4	41.3	23.3	21.5	5.8	10.9
Esophagus/Stomach (103)	65.0	77.4	46.3	47.8	25.8	19.6
Uterus/Ovaries (87)	32.2	41.0	25.0	14.7	6.8	21.3
Prostate (72)	13.9	40.0	9.7	13.0	1.5	4.5
Pancreas (42)	66.7	78.6	42.9	55.0	6.3	24.3
Kidney/Bladder (29)	41.4	66.7	14.3	28.6	15.4	7.7
Others (160)	31.9	52.2	23.7	19.1	10.6	10.2
TOTAL (1903)	39.8	57.6	28.4	24.2	13.8	9.6

Adapted from Hébuterne X, et al. *JPEN J Parenter Enteral Nutr.* 2014;38:196-204.

Evidence

Individualized nutrition intervention is of major benefit to colorectal cancer patients: long-term follow-up of a randomized controlled trial of nutritional therapy¹⁻³

Paula Ravasco, Isabel Monteiro-Grillo, and Maria Camilo

Am J Clin Nutr 2012;96:1346–53.

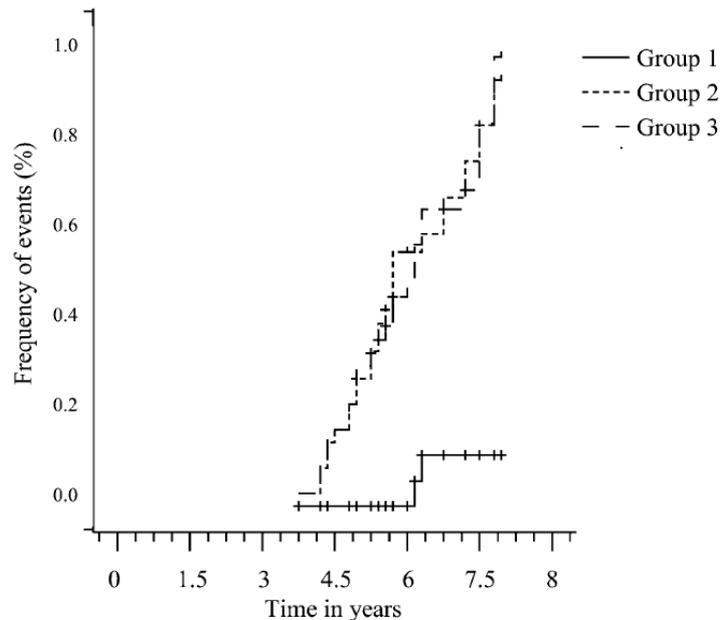


FIGURE 3. Incidence of late radiotherapy toxicity symptoms were calculated with Kaplan-Meier and log-rank tests and by Cox regression: group 1 ($n = 34$), individualized counseling; group 2 ($n = 29$), supplements + usual diet; group 3 ($n = 26$), usual diet. The incidence of late symptoms in the 3 groups was as follows: group 3 \approx group 2 $>$ group 1 ($P = 0.002$). For all analyses, within-group and between-group comparisons were adjusted for cancer stage, age, follow-up time, disease recurrence, adjuvant treatments, survival, and number of patients in each group.

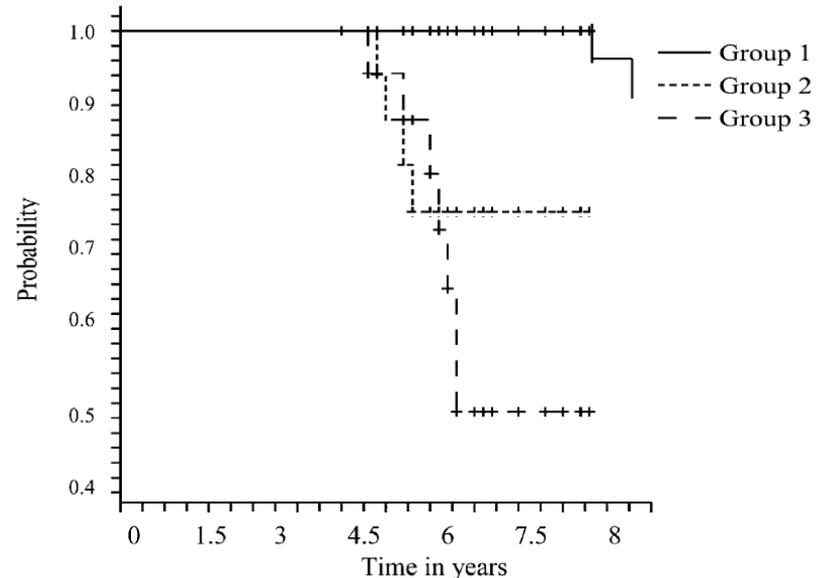


FIGURE 1. Disease-specific survival was calculated by Kaplan-Meier and log-rank tests, and the patients were divided by randomization group: group 1 ($n = 34$), individualized counseling; group 2 ($n = 29$), supplements + usual diet; group 3 ($n = 26$), usual diet. Survival time in group 3 $<$ group 2 $<$ group 1 ($P < 0.05$). For all analyses, within-group and between-group comparisons were adjusted for cancer stage, age, follow-up time, disease recurrence, adjuvant treatments, survival, and number of patients in each group.



Nutritional counseling

Nutritional counseling with or without systematic use of oral nutritional supplements in head and neck cancer patients undergoing radiotherapy



Emanuele Cereda^a, Silvia Cappello^a, Sara Colombo^b, Catherine Klersy^c, Ilaria Imarisio^d, Annalisa Turri^a, Marilisa Caraccia^a, Valeria Borioli^a, Teresa Monaco^d, Marco Benazzo^e, Paolo Pedrazzoli^d, Franco Corbella^b, Riccardo Caccialanza^{a,*}

A B S T R A C T

Background: To evaluate the benefit of oral nutritional supplements (ONS) in addition to nutritional counseling in head and neck cancer (HNC) patients undergoing radiotherapy (RT).

Methods: In a single-center, randomized, pragmatic, parallel-group controlled trial (ClinicalTrials.gov: NCT02055833; February 2014–August 2016), 159 newly diagnosed HNC patients suitable for to RT regardless of previous surgery and induction chemotherapy were randomly assigned to nutritional counseling in combination with ONS ($N = 78$) or without ONS ($N = 81$) from the start of RT and continuing for up to 3 months after its end.

Methods: Primary endpoint was the change in body weight at the end of RT. Secondary endpoints included changes in protein-calorie intake, muscle strength, phase angle and quality of life and anti-cancer treatment tolerance.

Results: In patients with the primary endpoint assessed (modified intention-to-treat population), counseling plus ONS ($N = 67$) resulted in smaller loss of body weight than nutritional counseling alone ($N = 69$; mean difference, 1.6 kg [95%CI, 0.5–2.7]; $P = 0.006$). Imputation of missing outcomes provided consistent findings. In the ONS-supplemented group, higher protein-calorie intake and improvement in quality of life over time were also observed ($P < 0.001$ for all). The use of ONS reduced the need for changes in scheduled anti-cancer treatments (i.e. for RT and/or systemic treatment dose reduction or complete suspension, HR=0.40 [95%CI, 0.18–0.91], $P = 0.029$).

Conclusion: In HNC patients undergoing RT or RT plus systemic treatment, and receiving nutritional counseling, the use of ONS resulted in better weight maintenance, increased protein-calorie intake, improved quality of life and was associated with better anti-cancer treatment tolerance.

Topic: Nutrition and cancer

ORIGINAL RESEARCH

Cancer Medicine  WILEY

Abstract Submission Identifier: ESPEN19-ABS-1199

WHEY PROTEIN ISOLATE SUPPLEMENTATION IMPROVES BODY COMPOSITION, MUSCLE STRENGTH AND TREATMENT TOLERANCE IN MALNOURISHED ADVANCED CANCER PATIENTS UNDERGOING CHEMOTHERAPY

E. Cereda¹, A. Turri¹, C. Klersy², S. Cappello¹, A. Ferrari³, A. R. Filippi⁴, S. Brugnattelli³, M. Caraccia¹, S. Chiellino³, V. Borioli¹, T. Monaco³, G. M. Stella⁵, L. Arcaini⁶, M. Benazzo⁷, G. Grugnetti⁸, P. Pedrazzoli³, R. Caccialanza¹

¹Clinical Nutrition and Dietetics Unit, ²Biometry and Clinical Epidemiology Service, ³Medical Oncology Unit, ⁴Radiation Oncology Unit, ⁵Unit of Respiratory System Diseases, ⁶Division of Hematology, FONDAZIONE IRCCS POLICLINICO SAN MATTEO, ⁷Department of Otolaryngology, University of Pavia and Head Neck Surgery Fondazione IRCCS Policlinico San Matteo, ⁸Nursing Technical and Rehabilitation Service, FONDAZIONE IRCCS POLICLINICO SAN MATTEO, Pavia, Italy

Rationale: WP represents the soluble class of dairy proteins which are known immune-enhancing constituents linked to a range of bioactive functions, such as prebiotic effects, promotion of tissue repair, maintenance of intestinal integrity, destruction of pathogens and elimination of toxins. WPs are rich in substrates for glutathione synthesis and could play a major role in cell protection against free radicals, ionizing radiation, reactive oxygen species and carcinogens. Furthermore, supplementation with WP may also induce more muscle protein synthesis than other protein sources, due to their higher anabolic potential. We evaluated the benefit of whey protein isolate (WPI) supplementation in addition to nutritional counseling in malnourished advanced cancer patients undergoing chemotherapy (CT).

Methods: In a single-center, randomized, pragmatic, parallel-group controlled trial (ClinicalTrials.gov: NCT02065726; February 2014 - June 2018), 166 malnourished advanced cancer patients with mixed tumor entities candidate to or undergoing CT, were randomly assigned to receive nutritional counseling with (N=82) or without (N=84) WPI supplementation (20 grams/daily) for 3 months. Primary endpoint was the change in phase angle (PhA). Secondary endpoints included changes in standardized PhA (SPA), fat-free mass index (FFMI), body weight, muscle strength, quality of life and CT toxicity (CTCAE 4.0 events).

Results: In patients with the primary endpoint assessed (modified intention-to-treat population), counseling plus WPI (N=66) resulted in improved PhA compared to nutritional counseling alone (N=69): mean difference, 0.48° [95%CI, 0.05 to 0.90] (P=0.027). Imputation of missing outcomes yielded consistent findings. WPI supplementation resulted also in improved SPA (P=0.021), FFMI (P=0.041), body weight (P=0.023), muscle strength (P<0.001) and in a reduced risk of CT toxicity (risk difference, -9.8% [95%CI, -16.9 to -2.6]; P=0.009), particularly of severe (grade ≥3) events (risk difference, -30.4% [95%CI, -44.4 to -16.5]; P=0.001).

Conclusions: In malnourished advanced cancer patients undergoing CT and receiving nutritional counseling, a 3-month supplementation with WPI resulted in improved body composition, muscle strength, body weight and reduced CT toxicity. Further trials, aimed at verifying the efficacy of this nutritional intervention on mid and long-term primary clinical endpoints in newly diagnosed specific cancer types, are warranted.

Disclosure of Interest: None Declared

Keywords: chemotherapy, Nutrition supplement

Beneficial effect of educational and nutritional intervention on the nutritional status and compliance of gastric cancer patients undergoing chemotherapy

ABSTRACT

Surgery combined with chemotherapy is the standard treatment for gastric cancer (GC); however, chemotherapy-related adverse effects are common and result in malnutrition and a poor prognosis. In addition, compliance to postoperative chemotherapy remains a problem. This study aimed to prospectively investigate the effect of educational and nutritional interventions on the nutritional status and compliance of GC patients undergoing postoperative chemotherapy.

A total of 144 GC patients were randomized into an intervention group that received intensive individualized nutritional and educational interventions during the entire course of chemotherapy and control group that received basic nutrition care and health education during hospitalization. The nutritional status and compliance between the two groups were compared. The interventions significantly improved calorie and iron intake within 24 h after the first chemotherapy session, and improved patients' weight, hemoglobin, total serum protein, and albumin levels during the entire course of chemotherapy. The compliance rate with chemotherapy was significantly higher in the intervention group than in the control group (73.61% vs. 55.56%, $P = 0.024$). A combination of nutritional and educational interventions provided beneficial effect on the nutrition status and compliance of gastric patients undergoing postoperative chemotherapy, which is worthy of clinical application.

Table 2. Daily intake of energy (kcal) and iron (mg), data collected after 24h from the 1st session of chemotherapy, median (PR25, PR75).

Parameters	Control	Intervention	<i>P</i>
Energy, kcal	822 (590, 1155)	1212 (761, 1827)	<0.001
Energy/RNI, %	37.63 (24.58, 48.15)	51.42 (32.02, 76.47)	<0.001
Iron, mg	10 (5, 16)	15 (9, 23)	0.006
Iron/RNI, %	71.39 (32.99, 125.21)	101.11 (8.90, 23.18)	0.003

RNI, recommended nutritional intake.

Table 5. Patients' compliance rate and withdrawal rate due to the adverse effects, n(%).

	Control	Intervention	<i>P</i>
Overall compliance rate	40 (55.56)	53 (73.61)	0.024
^a Overall withdrawal rate	30 (41.67)	14 (19.44)	0.004
^b Cumulative withdrawal rate			
1st	2 (2.78)	0 (0.00)	0.497
2nd	3 (4.17)	0 (0.00)	0.245
3rd	9 (12.50)	1 (1.39)	0.009
4th	15 (20.83)	2 (2.78)	0.001
5th	21 (29.17)	8 (11.11)	0.007
6th	29 (40.28)	12 (16.67)	0.002
7th	30 (41.67)	14 (19.44)	0.004

^aThe overall rate of withdrawal due to the adverse effects.

^bThe cumulative rate of withdrawal due to the adverse effects after each session of chemotherapy.

Impact of home enteral nutrition in malnourished patients with upper gastrointestinal cancer: A multicentre randomised clinical trial

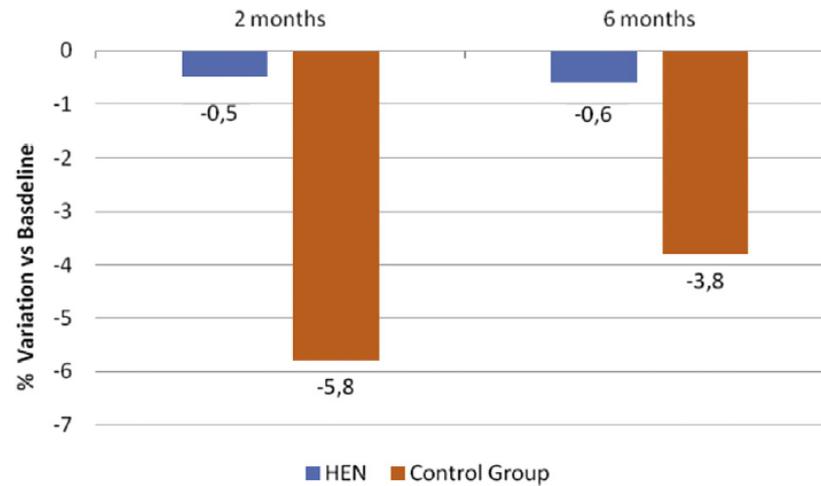


Fig. 1. Percentage variation in body weight over the study.

Patients and methods: Patients with upper GI cancer and candidate to major surgery were included in the protocol when the nutritional risk screening (NRS 2002) score was ≥ 3 . All patients were supported with enteral nutrition through a jejunostomy after surgery and randomly assigned to continue enteral nutrition or receiving nutritional counselling after discharge. Nutritional and performance status, quality of life (QoL) and tolerance to cancer treatment have been evaluated at 2 and 6 months after discharge.

Results: Seventy-nine patients were randomised; 38 continued enteral nutrition at home and 41 patients received nutritional counselling only. After 2 months, patients on HEN maintained their mean body weight, while patients in the nutritional counselling group showed a weight loss of 3.6 kg. Patients supported on HEN had a higher chance to complete chemotherapy as planned (48% versus 34%). QoL was not worsened by HEN. No complications were reported.

Program of gastrointestinal rehabilitation and early postoperative enteral nutrition

Abstract

Nutritional depletion is commonly observed in patients undergoing surgical treatment for a gastrointestinal malignancy. An appropriate nutritional intervention could be associated with improved postoperative outcomes. The study was aimed to determine the effect of a program of gastrointestinal rehabilitation and early postoperative enteral nutrition upon complications and clinical outcomes in patients who experienced gastrointestinal surgery for cancer. This is a prospective study (2013 January–2015 December) of 465 consecutive patients submitted to gastrointestinal surgery for cancer and admitted to an Oncological Intensive Care Unit. The program of gastrointestinal rehabilitation and early postoperative enteral nutrition consisted on: (1) general rules: pain relief, early mobilization, antibiotic prophylaxis, deep vein thrombosis prophylaxis and respiratory physiotherapy; and (2) gastrointestinal rules: gastric protection, control of postoperative nausea and vomiting, early nasogastric tube removal and early enteral nutrition. The most frequent surgical sites were colorectal (44.9%), gynecological with intestinal suturing (15.7%) and esophagus/stomach (11.0%). Emergency surgery was performed in 12.7% of patients. The program of intestinal rehabilitation and early postoperative enteral nutrition reduced major complications (19.2 vs. 10.2%; $p = 0.030$), respiratory complications ($p = 0.040$), delirium ($p = 0.032$), infectious complications ($p = 0.047$) and gastrointestinal complications ($p < 0.001$). Intensive care unit mortality ($p = 0.018$), length of intensive care unit stay ($p < 0.001$) and length of hospitalization ($p < 0.001$) were reduced as well. A program of gastrointestinal rehabilitation and early postoperative enteral nutrition is associated with reduced postoperative complications and improved clinical outcomes in patients undergoing gastrointestinal surgery for cancer.

Table 4 Postoperative clinical outcomes

Variables	2013 ($N = 151$)	2014 ^a ($N = 168$)	2015 ^a ($N = 146$)
OICU readmission, n (%)	22 (14.6)	18 (10.7) ^($p=0.301$)	14 (9.6) ^($p=0.189$)
Length of OICU stay, days [mean (SD)]	3.4 (1.4)	3.1 (1.1) ^($p=1.000$)	2.3 (0.7) ^($p<0.001$)
OICU mortality, n (%)	22 (14.6)	18 (10.7) ^($p=0.301$)	9 (6.2) ^($p=0.018$)
Length of hospital stay, days [mean (SD)]	9.8 (3.8)	8.5 (2.5) ^($p<0.001$)	8.2 (3.2) ^($p=0.004$)
Hospital mortality, n (%)	24 (15.9)	25 (14.9) ^($p=0.802$)	20 (13.8) ^($p=0.504$)

SD standard deviation, *OICU* Oncological Intensive Care Unit

^aThe year 2013 was used as a reference for all comparisons

Nutrition support can bring survival benefit to high nutrition risk gastric cancer patients who received chemotherapy

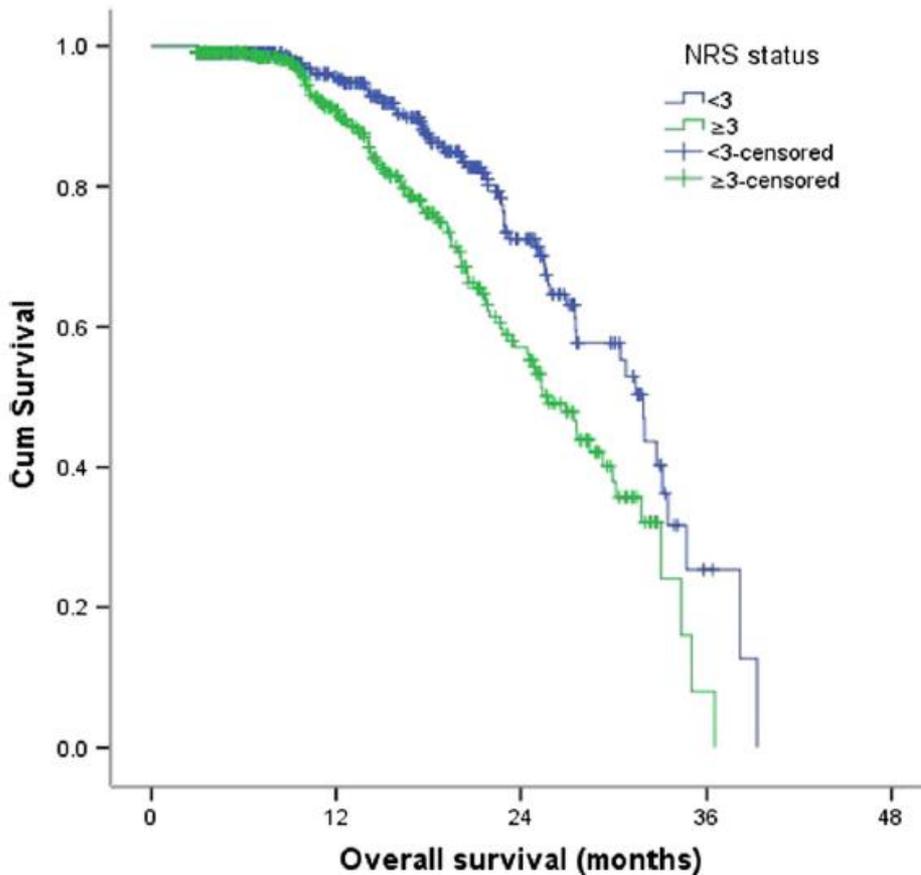


Fig. 2 Kaplan–Meier curves of gastric cancer patients in NRS \geq 3 and NRS<3 in the first study period. The median survival was significantly higher in NRS<3 patients (31.9 vs. 25.7 months, $P<0.001$)

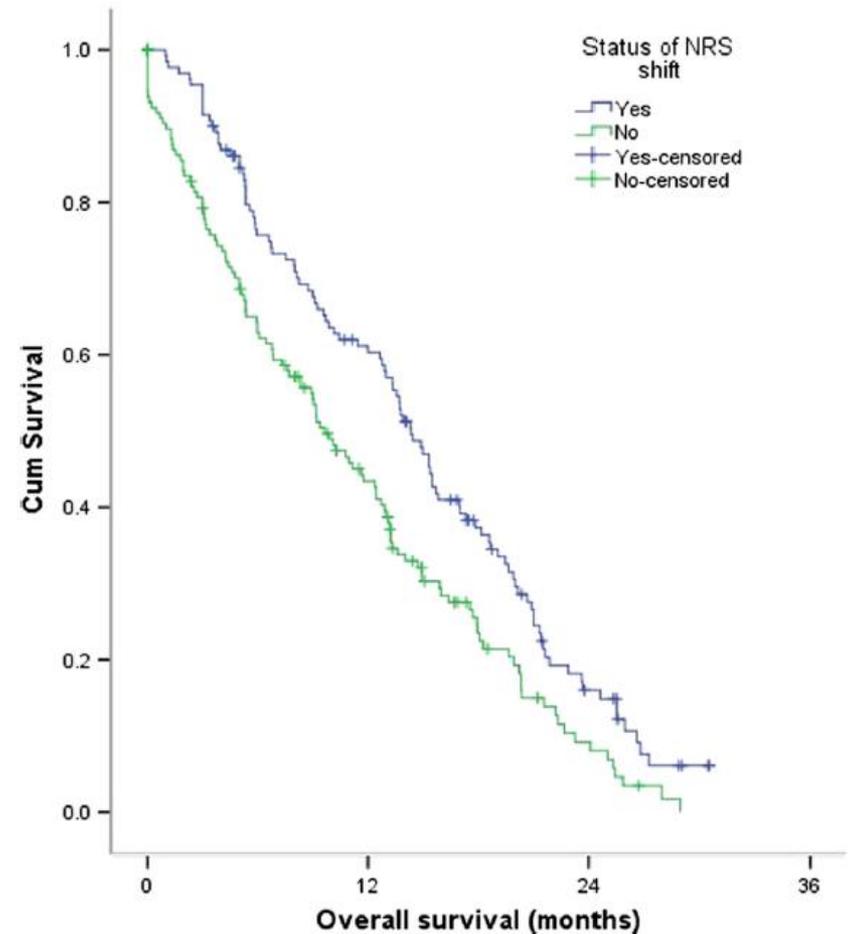


Fig. 3 Kaplan–Meier curves of gastric cancer patients with or without NRS shift in the second period. The median survival was 14.3 and 9.6 months for patients with and without NRS shift, $P=0.001$



Early 7-day supplemental parenteral nutrition improves body composition and muscle strength in hypophagic cancer patients at nutritional risk

Riccardo Caccialanza¹  · Emanuele Cereda¹ · Marilisa Caraccia¹ · Catherine Klersy² · Mariateresa Nardi³ · Silvia Cappello¹ · Valeria Borioli¹ · Annalisa Turri¹ · Ilaria Imarisio⁴ · Angioletta Lasagna⁴ · Jessica Saddi⁴ · Luca Arcaini⁵ · Marco Benazzo⁶ · Silvia Stragliotto⁷ · Vittorina Zagonel⁷ · Paolo Pedrazzoli⁸

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Abstract

Purpose The international guidelines recommend the use of supplemental parenteral nutrition (SPN) in cancer patients when they are malnourished and hypophagic and where enteral nutrition is not feasible. However, there are limited data on the short-term effects of SPN in this patient population.

Methods The aim of this bicentric single-arm clinical trial (NCT02828150) was to evaluate the effects of early 7-day SPN on bioimpedance vectorial analysis (BIVA)–derived body composition, handgrip strength (HG), and serum prealbumin (PAB) in 131 hypophagic, hospitalized cancer patients at nutritional risk, with contraindications for enteral nutrition.

Results One hundred eighteen patients (90.1%) completed the 7-day SPN support regimen and 102 of them (86.4%) were in advanced disease stage.

SPN induced a significant improvement of phase angle (PhA, +0.25 [95% CI 0.11, 0.39]; $p = 0.001$), standardized phase angle (SPA, +0.33 [95% CI 0.13, 0.53]; $p = 0.002$), HG (+2.1 kg [95% CI 1.30, 2.81]; $p < 0.001$), and PAB (+3.8 mg/dL [95% CI 2.1, 5.6]; $p < 0.001$).

In multivariable analysis, the effects on BIVA parameters were more pronounced in patients ($N = 90$, 76.3%) in whom estimated protein and calorie requirements were both satisfied (adjusted difference: PhA, +0.39 [95% CI 0.04, 0.73]; $p = 0.030$; SPA, +0.62 [95% CI 0.16, 1.09]; $p = 0.009$).

No significant changes in hydration status were detected and no severe metabolic or other complications occurred.

Conclusions Early 7-day SPN resulted in improved body composition, HG and PAB levels in hypophagic, and hospitalized cancer patients at nutritional risk in the absence of any relevant clinical complications. Further trials, aimed at verifying the efficacy of this early nutritional intervention on mid- and long-term primary clinical endpoints in specific cancer types, are warranted.

Is home parenteral nutrition safe for cancer patients? Positive effects and potential catheter-related complications: A systematic review

Habibe Ozcelik^{1,2}  | Sebahat Gozum²  | Zeynep Ozer³ 

Abstract

Purpose: Total Parenteral Nutrition began to be applied frequently in the houses of patients starting from the 1990s and is stated in literature as Home Parenteral Nutrition (HPN). The purpose of this review is to answer the question of whether or not HPN is safe for cancer patients.

Methods: Searches were conducted in Cochrane, CINAHL, PubMed, Springer, Google Scholar, and the Web of Science databases.

Results: The 1,949 articles were accessed in the total, and 20 articles have been included in the review. In the studies being evaluated, it can be determined that HPN has influenced the quality of life, performance status, and the nutrition level of cancer patients positively. Most frequently seen complications were infections relating to the catheter, the mechanical obstruction in the catheter and venous thrombosis. For each 1,000 days with HPN or a catheter, infections in the interval of 0.05 and 3.08, mechanical problems in the interval of 0.07 and 2.13, and thrombosis in the interval of 0.05 and 0.20 were determined.

Conclusions: While HPN influenced quality of life, nutrition, and the personal performance of cancer patients positively, the rate of complications is at a level that can be managed at home.

Limitations

Invited editorial

The oncology wall: Could Ali Baba have got to the nutrition treasure without using the correct words?

Evidence showing that **nutrition support is a relatively cheap adjuvant therapy** enhancing the efficacy and effectiveness of anti-tumour therapies may contribute to implement nutritional care into daily clinical practice

Prevalence of malnutrition and current use of nutrition support in patients with cancer

Table 4. Nutrition Support.

Disease Site (n)	% of Patients With Nutrition Support	% of Malnourished Patients With Nutrition Support	% of Non-Malnourished Patients With Nutrition Support	% Receiving Oral Supplements	% Receiving Enteral Nutrition	% Receiving Parenteral Nutrition
Blood (377)	34.5	44.5	29.3	20.3	9.5	16.2
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Esophagus/stomach (103)	65.0	46.3	46.3	47.8	25.8	19.6
Uterus/ovaries (87)	32.2	25.0	25.0	14.7	6.8	21.3
Prostate (72)	13.9	9.7	9.7	13.0	1.5	4.5
Pancreas (42)	66.7	78.6	42.9	55.0	6.3	24.3
Kidney/bladder (29)	41.4	66.7	14.3	28.6	15.4	7.7
Others (160)	31.9	52.2	23.7	19.1	10.6	10.2
Total (1903)	39.8	57.6	28.4	24.2	13.8	9.6

57%

Clinical studies in oncology



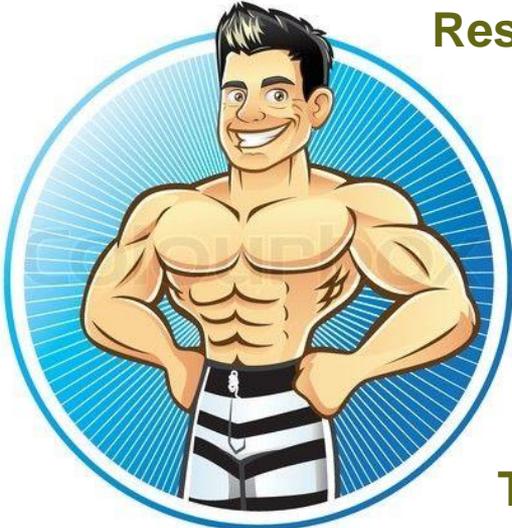
Nutritional support studies in oncology



Overall Survival

Toxicity

Treatment Response



Treatment Tolerance

Progression-free Survival



Weight Loss Randomized Intervention Trials in Female Cancer Survivors

Rowan T. Chlebowski and Marina M. Reeves

After a decade of preliminary studies, ongoing randomized, controlled clinical trials will potentially provide definitive assessment of whether weight loss can improve breast cancer clinical outcome. Longer-term interventions (> 2 years' duration) may be needed to optimize weight loss maintenance and any potential benefits on cancer end points.

Randomized Trial Comparing Telephone Versus In-Person Weight Loss Counseling on Body Composition and Circulating Biomarkers in Women Treated for Breast Cancer: The Lifestyle, Exercise, and Nutrition (LEAN) Study

Maura Harrigan, Brenda Cartmel, Erika Lofffield, Tara Sanft, Anees B. Chagpar, Yang Zhou, Mary Playdon, Fangyong Li, and Melinda L. Irwin

Conclusion

Both in-person and telephone counseling were effective weight loss strategies, with favorable effects on C-reactive protein levels. Our findings may help guide the incorporation of weight loss counseling into breast cancer treatment and care.

WHICH OUTCOMES



Efficacy of a Weight Loss Intervention for African American Breast Cancer Survivors

Melinda Stolley, Patricia Sheean, Ben Gerber, Claudia Arroyo, Linda Schiffer, Anjishnu Banerjee, Alexis Visotcky, Giamila Fantuzzi, Desmona Strahan, Lauren Matthews, Roxanne Dakers, Cynthia Carridine-Andrews, Katya Seligman, Sparkle Springfield, Angela Odams-Young, Susan Hong, Kent Hoskins, Virginia Kaklamani, and Lisa Sharp

Conclusion

The study supports the efficacy of a community-based interventionist-guided weight loss program targeting AABCS. Although mean weight loss did not reach the targeted 5%, the mean loss of > 3% at 6 months is associated with improved health outcomes. Affordable, accessible health promotion programs represent a critical resource for AABCS.



Brief report

Awareness and consideration of malnutrition among oncologists: Insights from an exploratory survey



Riccardo Caccialanza M.D.^a, Emanuele Cereda M.D., Ph.D.^a, Carmine Pinto M.D.^b, Paolo Cotogni M.D., M.Sc.^c, Gabriella Farina M.D.^d, Cecilia Gavazzi M.D.^e, Chiara Gandini M.D.^f, Mariateresa Nardi M.D.^g, Vittorina Zagonel M.D.^h, Paolo Pedrazzoli M.D.^{f,*}

Responders: 5.7%

Table 2

Cross-tabulation of answers to the questions

Questionnaire items	%
1. Do nutritional assessment and support play a role in the daily care of cancer patients?	
Yes, they are integral part of the therapeutic program since diagnosis	28
They play an important role, but they are not performed on a routine basis	56
They play a secondary role compared to cancer treatments	16
Not at all	1
2. How would you rate the role of nutritional status in the practicability of/tolerance to cancer treatment?	
Crucial	47
Rather important, often decisive	50
Little important, rarely decisive	3
Useless	0
3. When is nutritional assessment performed?	
During the first visit and all the follow-up visits	21
During the first visit, then only when the patient reports weight loss and/or the reduction of food intake	30
Only during the first visit	0
Only when the patient reports weight loss and/or the reduction of food intake	46
Not at all	3

Cancer-related malnutrition management: a survey among Italian Oncology Units and Patients' Associations.

Riccardo Caccialanza^{1*}, Federica Lobascio¹, Emanuele Cereda¹, Giuseppe Aprile², Gabriella Farina³, Francesca Traclò⁴, Valeria Borioli¹, Marilisa Caraccia¹, Annalisa Turri¹, Francesco De Lorenzo⁴ and Paolo Pedrazzoli⁵, on behalf of the AIOM-SINPE-FAVO and Fondazione AIOM Working Group.



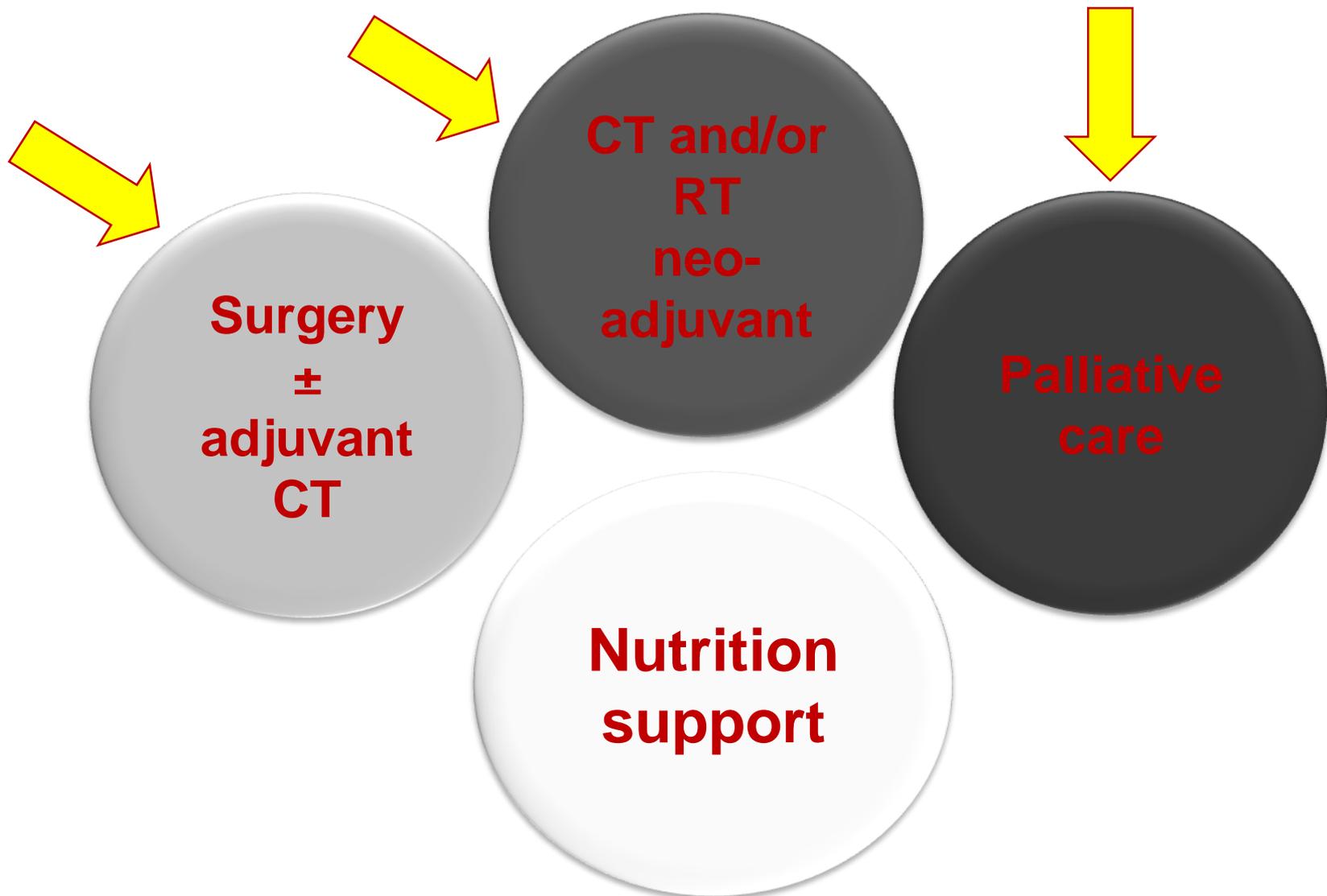
Background: Attitudes towards cancer-related malnutrition vary considerably among oncologists and nutritional support is often not handled according to the available guidelines.

Methods: The Italian Association of Medical Oncology (AIOM), Italian Society of Artificial Nutrition and Metabolism (SINPE), Italian Federation of Volunteer-based Cancer Organizations (FAVO), and Fondazione AIOM Working Group conducted a national web-based survey addressed to all Italian Oncology Units referees and Italian Cancer Patients Associations. The aim was to investigate the current management of malnutrition and views on nutritional care among oncologists and patients.

Results: One hundred and seventy-one (51.6%) of the 331 registered Italian Oncology Units and 75 (38.5%) of the 195 FAVO local communities participated in the survey. Nutritional assessment and support were integrated into patient care from diagnosis for 35% of Oncology Unit referees and 15% of FAVO associates. According to 42% of oncologists, nutritional assessment was carried out only after patients requested it, while it was not performed at all for 45% of FAVO associates. Almost 60% of patient affiliates were not aware of clinical referrals for home artificial nutrition management. However, for almost all responders, the evaluation of nutritional status was considered crucial in predicting tolerance to anti-cancer treatment.

Conclusions: Although malnutrition was considered a limiting factor in oncology treatments by both oncologists and patients, nutritional care practices still appear largely inappropriate. Attitudes differ between oncologists and patients, the latter reporting a more dissatisfied picture. Improving nutritional care in oncology remains a challenging task.

Anti-cancer treatments and nutrition



Integration of oncology and palliative care: a *Lancet Oncology* Commission

Stein Kaasa*, Jon H Loge*, Matti Aapro, Tit Albrecht, Rebecca Anderson, Eduardo Bruera, Cinzia Brunelli, Augusto Caraceni, Andrés Cervantes, David C Currow, Luc Deliens, Marie Fallon, Xavier Gómez-Batiste, Kjersti S Grotmol, Breffni Hannon, Dagny F Haugen, Irene J Higginson, Marianne J Hjermstad, David Hui, Karin Jordan, Geana P Kurita, Philip J Larkin, Guido Miccinesi, Friedemann Nauck, Rade Pribakovic, Gary Rodin, Per Sjøgren, Patrick Stone, Camilla Zimmermann, Tonje Lundebj

Panel 16: Main objectives of the recommendations for a global core curriculum in medical oncology

- To screen, assess, prevent, and manage symptoms of patients with cancer such as pain, fatigue, anorexia, anxiety, depression, breathlessness, and nausea
- To communicate effectively with patients and families about understanding of and coping with cancer, prognosis, difficult decisions, end-of-life and its preparation, including psychosocial and existential dimensions
- To recognise the role of cancer rehabilitation, including physical therapy and nutrition
- To recognise the importance of culturally competent, multidisciplinary care that also includes the families
- To understand how to integrate palliative interventions in routine multidisciplinary cancer care
- To recognise the difference between burnout, compassion fatigue, and depression
- To ensure timely referral to specialist palliative care teams

Palliative care specialists need not only to collaborate with surgeons, radiation oncologists, medical oncologists, and haematologists clinically, but also to conduct research studies to identify the best ways to optimise patients' functional status and nutritional status before, during, and after treatments. More research is also

Although specialist palliative care has been found to improve symptom control compared with oncology care alone,⁶³ many symptoms have few effective therapies and remain undertreated even by a comprehensive palliative care team^{552,560}—eg, anorexia-cachexia is reported in up to 60% of patients with advanced cancer. Management of cachexia should begin at the precachexia phase, when patients are seen predominantly by their oncologists. Here, multimodal multidisciplinary interventions targeting nutrition, physical activity, inflammation, appetite, and nutritional impact symptoms are essential.^{561,562}



Disinformation and myths

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News

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Cancer Horizons



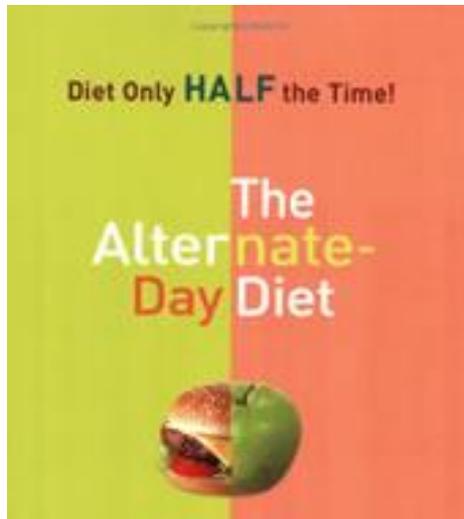
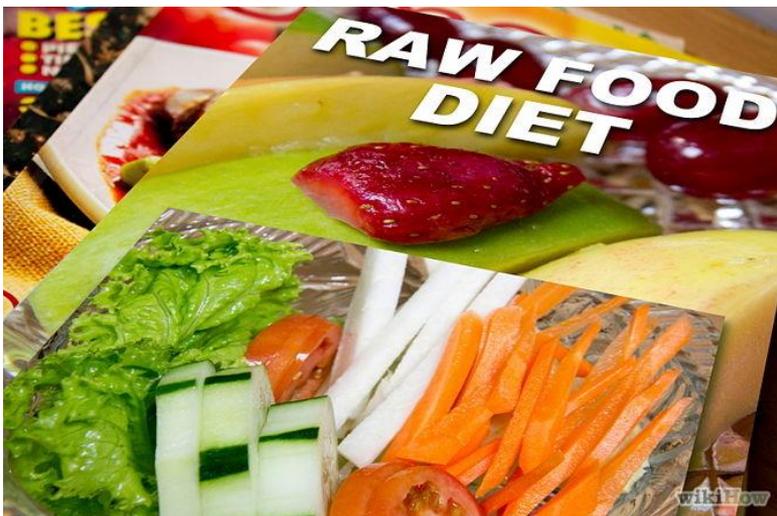
CrossMark

The integrating nutritional therapy in oncology (INTO) project: rationale, structure and preliminary results

Riccardo Caccialanza,¹ Francesco De Lorenzo,² Paolo Pedrazzoli,³ for the AIOM-SINPE-FAVO Working Group

ESMO Open 2017;2:e000221. doi:10.1136/esmooopen-2017-000221

Disinformation is a critical point with regard to nutrition for patients with cancer. Despite the lack of evidence-based data, hundreds of books and websites promote anticancer diets and nutritional supplements.



COSA NON DEVE MAI MANCARE SULLA TUA TAVOLA

IL POTERE DEL CIBO

Diete e nuove tendenze alimentari per curarsi e prevenire



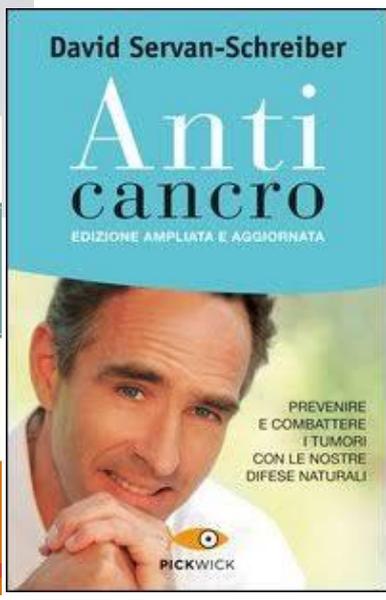
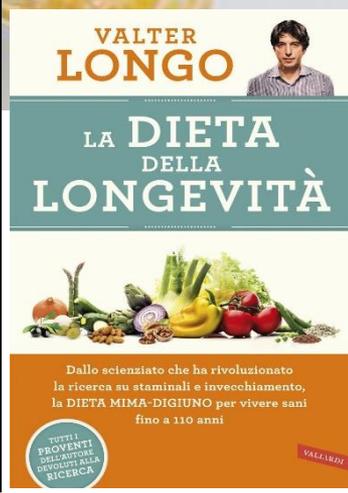
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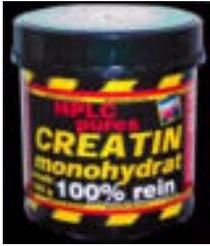
L'era delle nuove diete.
 Protagoniste: frutta e verdura



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 per sconfiggere il Male

dott.ssa Maria Rosa Di Fazio





A close-up photograph of a person's hand holding a newspaper. The newspaper is the central focus, with the masthead and a headline clearly visible. The background is slightly blurred, showing what appears to be a blue container or bag.

TIMES

TRENDS

Fasting may be the best way to combat cancer

It Boosts Treatment, Tests On Mice Show

Chemotherapy does not harm fetuses



When less may be more: calorie restriction and response to cancer therapy

Ciara H. O'Flanagan¹, Laura A. Smith¹, Shannon B. McDonnell¹ and Stephen D. Hursting^{1,2,3,4*}

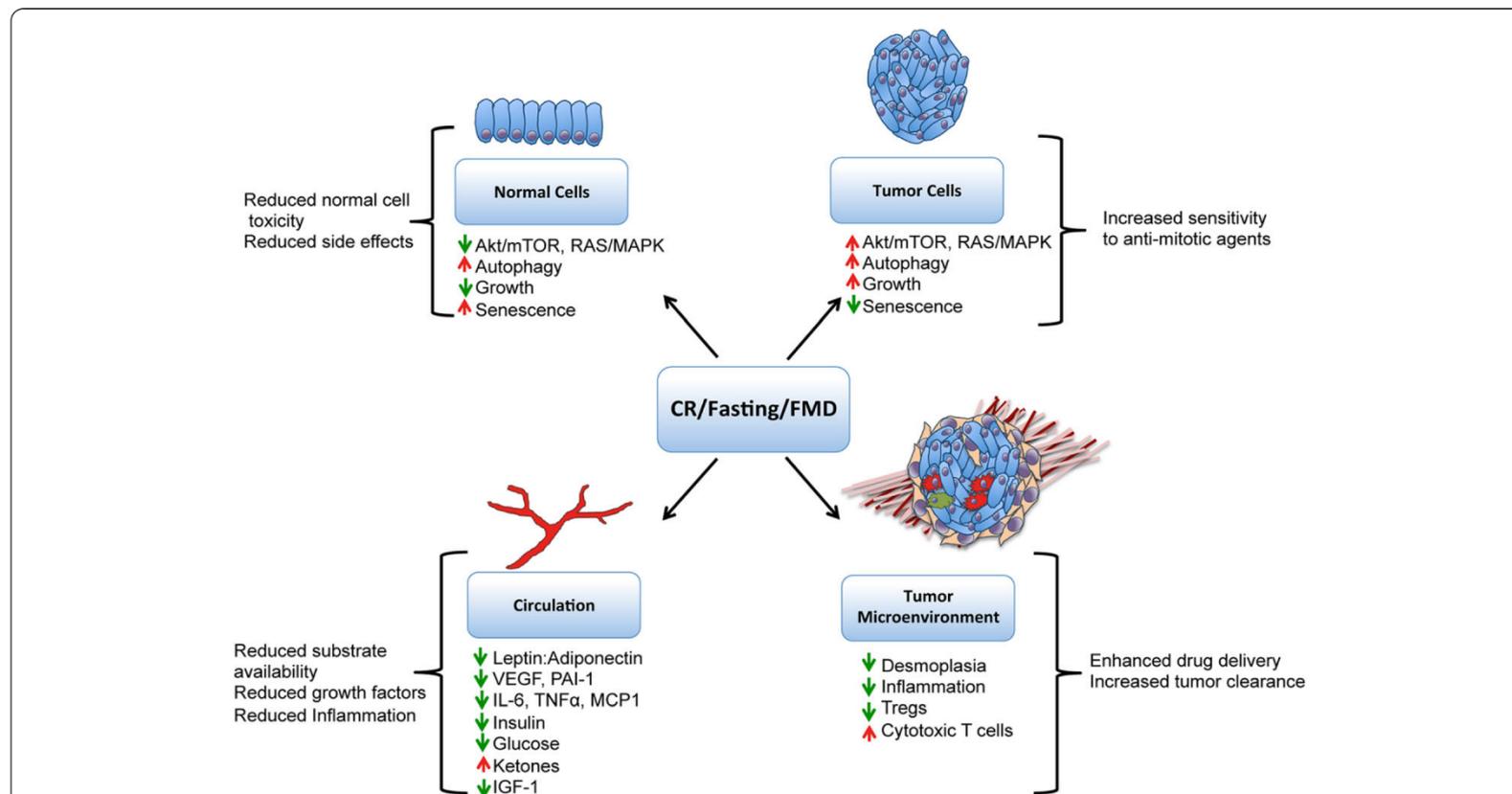


Fig. 1 Mechanisms through which calorie restriction (CR) affects response to anticancer therapy. CR, fasting, or fasting-mimicking diets (FMDs) cause reduced Akt/mTOR and Ras signaling in normal cells, resulting in senescence, reduced growth, and protection from cytotoxic treatment, while in tumor cells, oncogenic signals remain and cells are sensitive to anti-mitotic therapies. CR, fasting, and FMD also reduce pro-inflammatory cytokines in the circulation and in the tumor microenvironment niche, as well as reduced leptin, insulin, IGF-1, and glucose. CR can reduce desmoplasia surrounding the tumor tissue, which may facilitate better therapeutic drug delivery to the tumor cells. CR can also aid in immunosurveillance of tumors by reducing T_{reg} populations that inhibit cytotoxic CD8⁺ T cells. This figure has not been published elsewhere



Fasting in oncology: a word of caution

Riccardo Caccialanza¹ , Giuseppe Aprile, Emanuele Cereda and Paolo Pedrazzoli

Riccardo Caccialanza¹ , Giuseppe Aprile², Emanuele Cereda¹ and Paolo Pedrazzoli³

¹Clinical Nutrition and Dietetics Unit, Fondazione IRCCS Policlinico San Matteo, Pavia, Italy.

²Department of Oncology, San Bortolo General Hospital, Vicenza, Italy.

³Medical Oncology Unit, Fondazione IRCCS Policlinico San Matteo and Department of Internal Medicine, University of Pavia, Pavia, Italy.

*e-mail: r.caccialanza@smatteo.pv.it

<https://doi.org/10.1038/s41568-018-0098-0>

The statement by Nencioni et al., “We propose that the combination of FMDs with chemotherapy, immunotherapy or other treatments, represents a potentially promising strategy to increase treatment efficacy, prevent resistance acquisition and reduce side effects”¹, is devoid of clear clinical evidence and conflicts with recent recommendations from international scientific societies^{14,15}.

Another worrying aspect is that the application of fasting in oncology has been prematurely reported by the media as a potential advance in medical oncology, to the point where FDM kits have recently been commercialized². These may negatively interfere with cancer care, as patients at risk of malnutrition or sarcopenia could autonomously decrease protein–calorie intake during treatment¹⁵.

Data on fasting and calorie restriction in combination with chemotherapy currently represent only a potential for clinical development, and future articles reviewing this topic can hopefully include conclusive clinical data in order to consider whether fasting can be used in clinical practice.

Reply to ‘Fasting in oncology: a word of caution’

Alessio Nencioni, Irene Caffa, Salvatore Cortellino and Valter D. Longo

Alessio Nencioni^{1,2}, Irene Caffa¹, Salvatore Cortellino³
and Valter D. Longo^{3,4*}

¹Department of Internal Medicine and Medical
Specialties, University of Genoa, Genoa, Italy.

²IRCCS Ospedale Policlinico San Martino, Genoa, Italy.

³IFOM, FIRC Institute of Molecular Oncology,
Milano, Italy.

⁴Longevity Institute, Leonard Davis School of
Gerontology and Department of Biological Sciences,
University of Southern California, Los Angeles,
CA, USA.

*e-mail: vlongo@usc.edu

<https://doi.org/10.1038/s41568-018-0100-x>

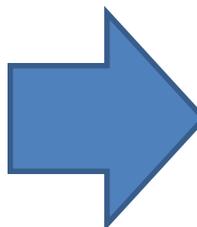
We would like to thank Caccialanza and colleagues for their thoughtful letter on our recent Opinion article (*Nat. Rev. Cancer* **18**, 707–719 (2018))¹. We fully agree with these authors (Fasting in oncology: a word of caution. *Nat. Rev. Cancer* <https://doi.org/10.1038/s41568-018-0098-0> (2019))² that until larger clinical studies confirm the efficacy of fasting and fasting-mimicking diets (FMDs) in cancer therapy, these dietary regimens should only be applied as part of clinical trials. We also agree that, even though the published studies of these approaches failed to highlight severe side effects^{3–6}, issues of malnutrition and of sarcopenia were only partially addressed in these studies. With



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Per maggiori informazioni sul programma dietetico, contattaci. Uno staff di esperti sarà a tua completa disposizione.

Contattaci



Why do women fast during breast cancer chemotherapy? A qualitative study of the patient experience

Sébastien Mas^{1,2*} , Alice Le Bonniec^{1,2} and
Florence Cousson-Gélie^{1,2}

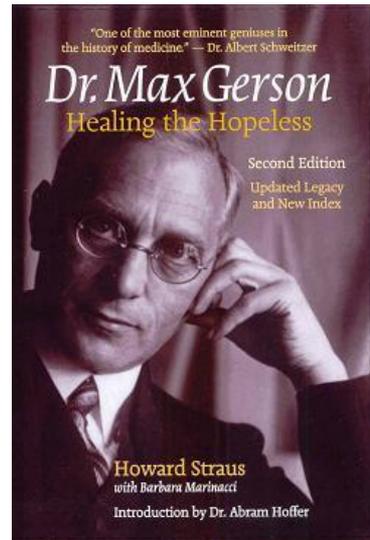
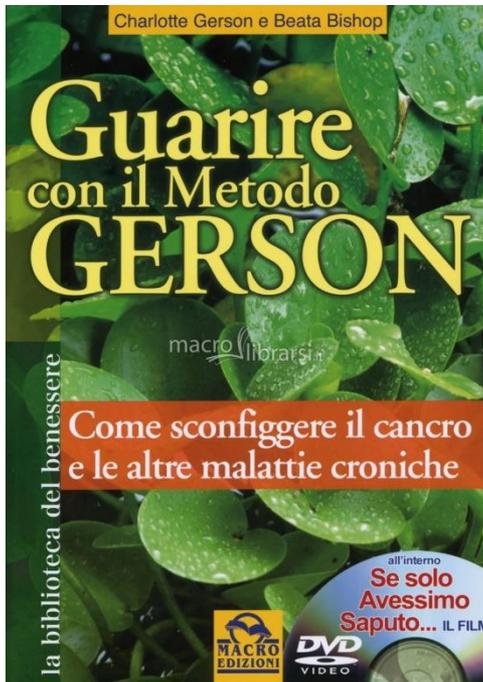
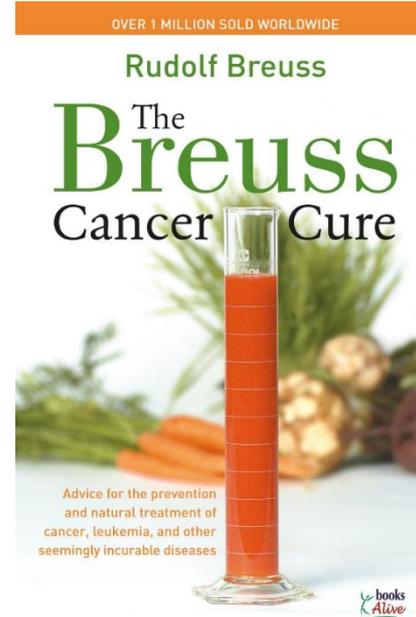
Background. Why do patients practice fasting? The effects of fasting before treatment with chemotherapy for cancer in humans are currently unknown. However, there is an apparent enthusiasm for fasting among cancer patients. This qualitative study provides data on the motivations to fast and the experience of fasting among a population of women with breast cancer.

Method. Sixteen semi-structured interviews were conducted, and two researchers independently performed a thematic analysis. To ensure the internal validity of the study, patients had the possibility to rate their agreement with the study results through a satisfaction questionnaire.

Results. Six main themes were identified in this study: main reasons to fast, alternative authorities to the oncologist, adapting the fast to social and lifestyle constraints, fasting effects felt during chemotherapy, barriers and facilitators of fasting during chemotherapy, and seeking for a more integrative medicine. Patients' primary motivation to fast was to lower the negative side effects of chemotherapy. Fasting was also reported as a coping strategy to give them a greater sense of control over their treatment and to reduce their anxiety.

Clinical implications. Results from the study suggest that, if discouraged from fasting, patients may turn to complementary health care practitioners for support. Medical professionals may thus not know of patients' fasting practice. Health psychologists could play a key role fostering the dialogue between different health professionals and the patient. They could also help to meet patients' needs during cancer treatment to reduce treatment anxiety.

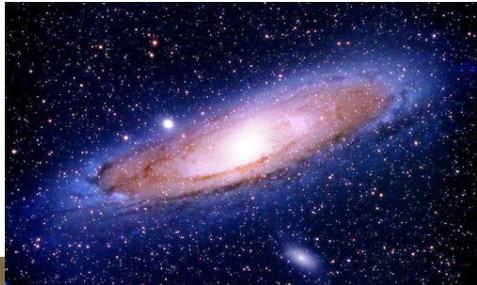
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422 milioni di diabetici in tutto il mondo, nel 2030 saranno più di 800 milioni.

SI PUÒ GUARIRE DAL DIABETE?

Il diabete rappresenta la patologia che più di ogni altra rappresenta l'epidemia della civiltà moderna. Sconosciuto fino ai primi anni del 1800, oggi rappresenta una vera e propria epidemia e sta aumentando a livello esponenziale, soprattutto nelle popolazioni con uno stile di vita occidentale. Siamo posseduti da circa 100 milioni di persone diabetiche nel 1980, ai 422 milioni di malati di oggi.

Chiediamo al giornalista Adriano Panzironi, autore del best seller "Vivere 120 Anni" di parlare di diabete.

Panzironi, possiamo dire che siamo di fronte a una vera e propria epidemia di diabete?

Sì, certamente. Consideri in Italia si contano 5 milioni di diabetici, ma quello che noi stiamo vedendo oggi non è nulla a confronto di quello che vedremo nel prossimo futuro.

Il diabete oltre ad essere un problema sanitario è sicuramente un problema economico, visto il costo molto alto delle cure. Arriveremo a situazioni ancora più drammatiche, molto di più di quello che possiamo immaginare.

Panzironi, con tutte le medicine che abbiamo, è possibile che non riusciamo a tenere a bada il diabete ma soprattutto a prevenirne la comparsa?

Le medicine sono sicuramente una grande arma a disposizione della Medicina ufficiale, ma non stiamo parlando di una cura, semplicemente rallentiamo, ovvero diminuiamo quello che sono gli effetti della glicemia. Però, devo dirle che il peggior nemico dei pazienti diabetici sono proprio le indicazioni dietetiche che vengono fornite oggi dai diabetologi.

Panzironi questa è un'accusa molto forte, ci aiuti a capire.

Purtroppo l'alimentazione consigliata ai pazienti diabetici si basa sulla cosiddetta dieta mediterranea, ovvero si utilizzano cibi come pasta, pane, riso, legumi, pizza e mais che sono ricchi fino all'80% di carboidrati che io definisco insulini. Quindi sostanzialmente si consiglia la stessa dieta che è stata la responsabile della comparsa del diabete stesso.

La colpa di questo, secondo me, è soltanto della classe che consiglia l'alimentazione scorretta e poi tenta di correggere la glicemia con i farmaci. Sarebbe più corretto dire ai pazienti: "Io ti do la pillola, ti do l'insulina, ma sappi che questo non solo è un palliativo, ma indurirti comunque nei prossimi dieci anni ad ammalarti gravemente di diabete, quindi a correre il rischio che corrono tutti i diabetici."

Panzironi, quindi che tipo di alimentazione dovrebbero consigliare i diabetologi?

Quella prevista nello stile di vita Life 120 e di cui parlo nel mio libro "Vivere 120 Anni": carne pesce, verdura e poca frutta.

Panzironi, si può guarire dal diabete?

Ci sono persone che dopo che hanno cambiato alimentazione, ed abbracciato lo stile di vita Life120, hanno visto la loro glicemia tornare alla norma, tutto ovviamente confermato dalle analisi della glicemia a digiuno e dell'emoglobina glicata. Quindi possiamo affermare che, finché si continua con questa corretta alimentazione, non si soffre più di diabete.

Nella foto: **Adriano Panzironi**, giornalista e autore del libro **Vivere 120 anni**

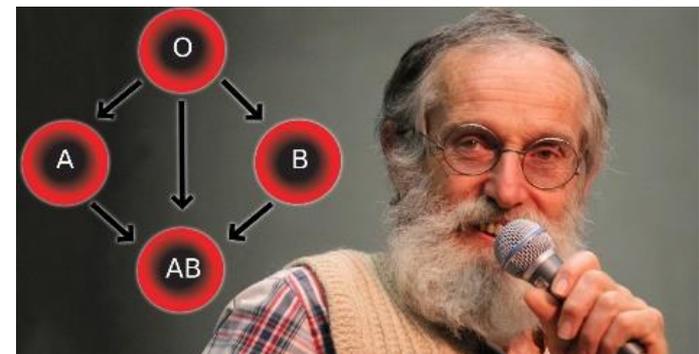


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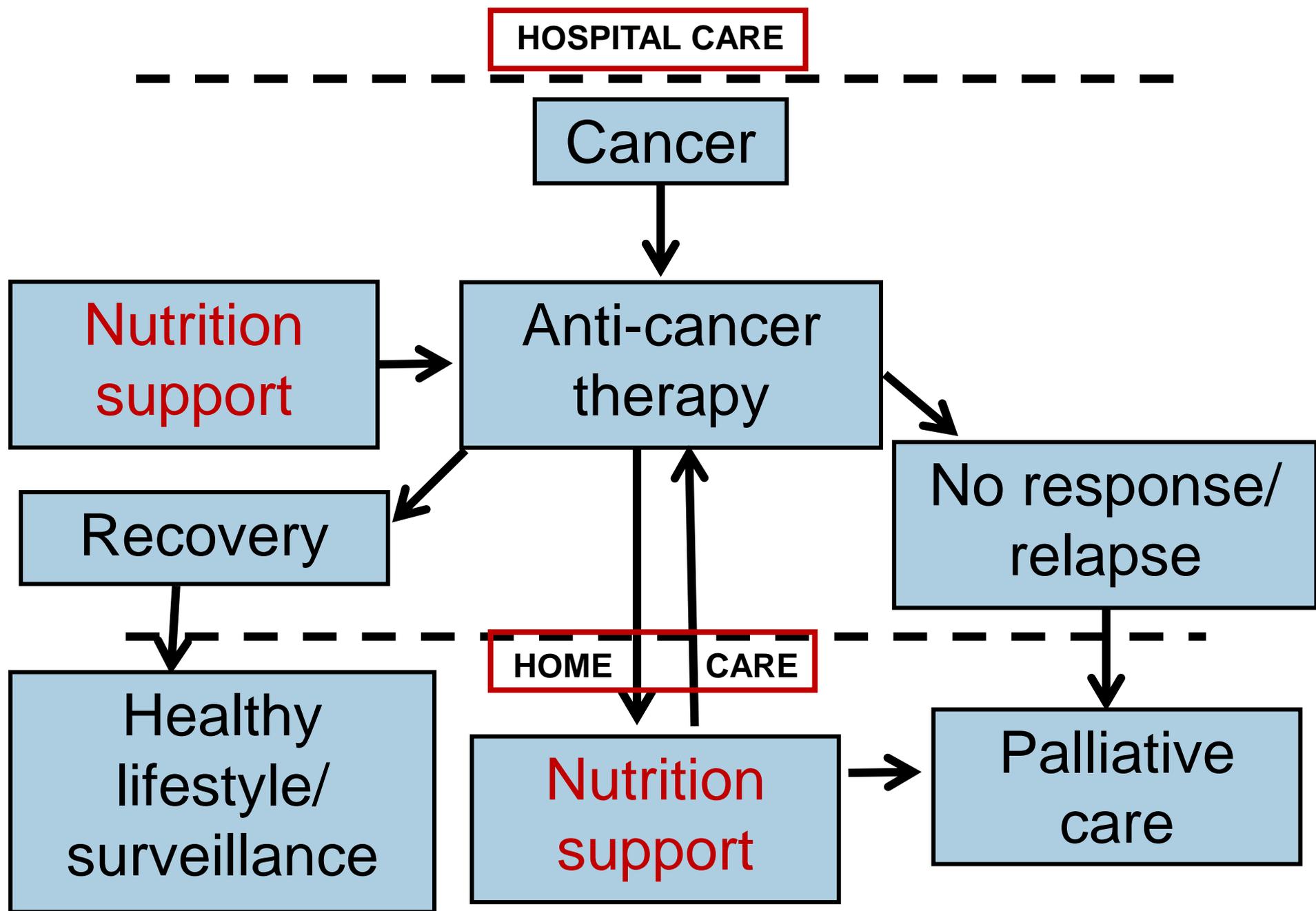
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The Continuum of Nutrition Care in Cancer Patients

Support for People with Cancer

Eating Hints: Before, during, and after Cancer Treatment



La Collana del Corso

4. 13

La nutrizione nel malato oncologico

Associazione Italiana Malati di Cancro,
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Perspectives

UNIVERSITÀ
DI PAVIA

Servizio Sanità e Post laurea

ART. 1 - TIPOLOGIA

Si propone di attivare, per l'a.a. 2019/2020, il Master Universitario di II livello in "NUTRIZIONE IN ONCOLOGIA" ai sensi dell'art. 3 c. 9 del D.M. 270/2004, degli artt. 36, 37 e 38 dello Statuto dell'università degli Studi di Pavia, dell'articolo 12 del Regolamento didattico di Ateneo nonché del Regolamento per l'Istituzione di Corsi per Master Universitario, Corsi di Perfezionamento e Corsi di Aggiornamento e Formazione Permanente" presso il Dipartimento di Medicina Interna e Terapia Medica

Edizione: I

Area di afferenza: Medica

ART. 2 - OBIETTIVI FORMATIVI, SBocchi PROFESSIONALI E ATTRATTIVITÀ DEL CORSO

Il Master ha lo scopo di fornire una formazione avanzata incentrata sullo studio della nutrizione applicata all'oncologia, tematica che si sta delineando negli ultimi anni come un fattore chiave sia per la prevenzione che per la cura dei tumori.

Se da una parte una corretta alimentazione può contribuire a ridurre l'incidenza di principali patologie oncologiche, è ormai noto che la malnutrizione è una comorbidità di frequente riscontro nei pazienti con patologie neoplastiche. Le cause di tale condizione sono molteplici, riconducibili sia a fattori locali, correlati alla presenza della neoplasia, sia sistemici, ossia fattori biumorali o localizzazioni a distanza. Gli stessi trattamenti terapeutici (radioterapia, terapie mediche e chirurgiche) possono essere inoltre responsabili di un deterioramento dello stato di nutrizione attraverso un incremento dei fabbisogni energetici e/o di un'alterazione dell'apporto e dell'assorbimento dei nutrienti.

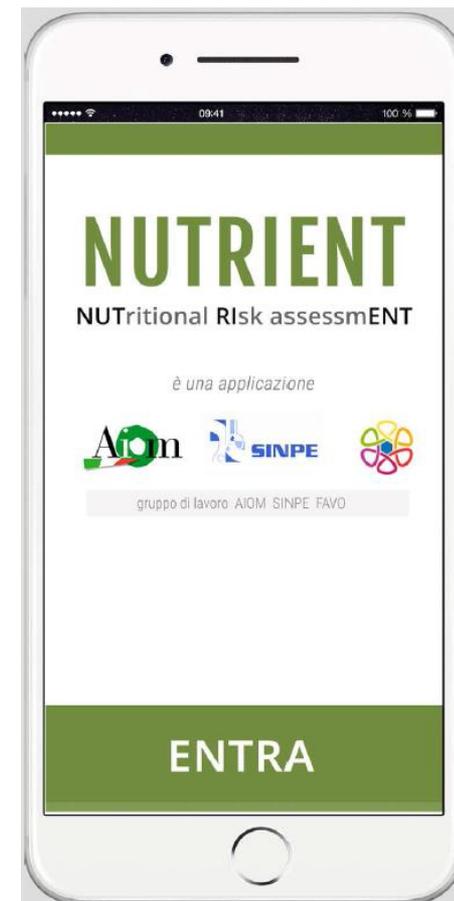
La terapia nutrizionale è di fondamentale importanza per il miglioramento della salute della popolazione e della qualità delle cure, cui occorre riservare i giusti investimenti in termini formativi, comunicativi ed economici. In particolare, l'intervento valutativo tempestivo e il supporto nutrizionale assumono grande valore alla luce dell'evidenza che la condizione nutrizionale influenza non solo l'incidenza delle principali patologie oncologiche, ma anche la risposta ai trattamenti e l'insorgenza di complicanze a essi associate (con conseguente aumento dei tassi di interruzione/sospensione dei trattamenti e della durata delle degenze ospedaliere), con impatto sulla qualità di vita e sulla sopravvivenza.

Tutto ciò si traduce in evidenti e sostanziali vantaggi, non solo in termini clinici, ma anche economici.

Nonostante le numerose e consistenti evidenze scientifiche, la valutazione e il supporto nutrizionale sono ancora troppo spesso trascurati nelle strutture sanitarie, così come l'educazione alimentare è ancora gestita in modo frammentario.

A questa situazione si aggiungono il mercato sempre crescente degli integratori nutrizionali, che sono prescritti o acquistati autonomamente dai pazienti nella quasi totale assenza di evidenze scientifiche convincenti, e l'enorme confusione mediatica sull'alimentazione in genere, spesso creata e alimentata a puro scopo commerciale. Questi aspetti fuorvianti possono compromettere la salute dei pazienti oncologici, i quali rischiano di ridurre progressivamente i propri apporti nutrizionali fino all'insorgenza di malnutrizione o sarcopenia.

In un sistema sanitario con domanda di salute crescente e risorse limitate, la formazione di esperti su questa tematica e lo sviluppo di presidi nutrizionali di comprovata efficacia, può consentire un risparmio ad altre voci della spesa sanitaria, un'allocazione efficiente delle risorse e un aumento del livello di salute dei cittadini.



	PERCORSO DIAGNOSTICO TERAPEUTICO ASSISTENZIALE TERRITORIALE	Approvazione
	Supporto nutrizionale	Revisione n. 0

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SUPPORTO NUTRIZIONALE

Fondazione IRCCS Policlinico S. Matteo di Pavia

Dr. Riccardo Caccialanza

Dr. Paolo Pedrazzoli

ASST di Pavia

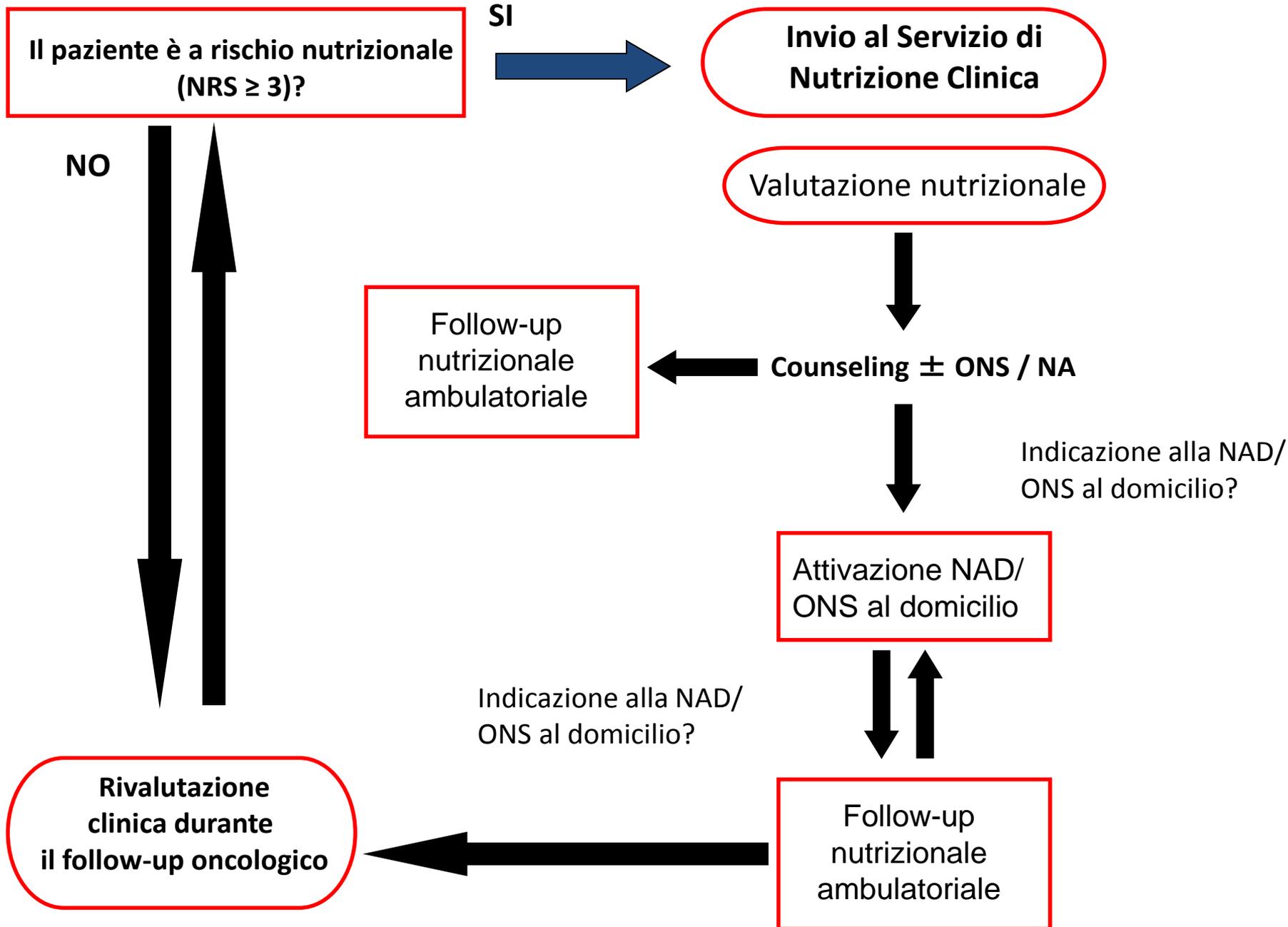
Inf. Coord. Maria Addis

Dr.ssa Laura Daprada

Dr. Luigi Magnani

Dr. Luigi Negri

Dr.ssa Giancarla Patrini



Nutritional support for cancer patients: still a neglected right?

Riccardo Caccialanza¹ • Francesco De Lorenzo² • Luca Gianotti³ • Vittorina Zagonel⁴ • Cecilia Gavazzi⁵ • Gabriella Farina⁶ • Paolo Cotogni⁷ • Saverio Ciniere⁸ • Emanuele Cereda¹ • Paolo Marchetti⁹ • Mariateresa Nardi¹⁰ • Elisabetta Iannelli² • Claudia Santangelo² • Francesca Traclo² • Carmine Pinto¹¹ • Paolo Pedrazzoli¹²

Table 1 Cancer Patients' Bill of Rights for appropriate and prompt Nutritional Support

1. Right to correct information and nutritional counseling: every cancer patient has the right to comprehensive evidence-based clinical information on her/his nutritional status, possible associated consequences and available nutritional therapeutic options; nutritional counseling to adapt her/his diet to suit ensuing medical, surgical or radiotherapeutic treatment.
2. Right to nutritional screening and assessment: every cancer patient has the right to nutritional screening to reduce the risk of malnutrition, using validated tools, both at diagnosis and at regular time points, while ensuring that the cancer type and stage are taken into account along with any treatment likely to affect nutritional status. Every cancer patient at nutritional risk, has the right to prompt referral for comprehensive nutritional assessment and support to Clinical Nutrition Services or to medical personnel with documented skills in clinical nutrition. Nutritional assessment must be an integral part of any diagnostic-therapeutic regimes developed by Oncology Units.
3. Right to dietary prescriptions: every cancer patients at nutritional risk or malnutrition has the right to receive personalized dietary prescriptions by medical personnel with documented skills in clinical nutrition.
4. Right to oral nutritional supplements: every cancer patient at nutritional risk has the right, according to clinical conditions and specific nutrient deficiencies, to receive oral nutritional supplements, including vitamins and minerals.
5. Right to appropriate and prompt artificial nutrition: artificial nutrition is a complex therapeutic procedure that requires specific medical skills, as it may be associated with severe complications if not carried out according to evidence-based standard operating protocols. Every cancer patient at nutritional risk, who is unable maintain an adequate nutritional status despite nutritional counseling and oral nutritional support, has the right to receive appropriate and swift artificial nutrition in every health care setting, as part of continuing care.
6. Right to appropriate and safe home artificial nutrition: every cancer patient, who needs to continue artificial nutrition after hospital discharge, has the right to receive appropriate and safe home artificial nutrition, prescribed by Clinical Nutrition Services or medical personnel with documented skills in clinical nutrition.
7. Right to nutritional support monitoring: every cancer patient requiring nutritional support has the right to periodic reassessment of treatment adequacy and efficacy using established integrated health care regimes which ensure the collaboration of both Oncologists and Clinical Nutritionists.
8. Right to treatment for overweight-related health problems during or after cancer treatment: every cancer patient has the right to be referred to Clinical Nutrition Services, during or after oncologic rehabilitation programs, so that ideal body weight can be recovered or maintained, to avoid the negative impact of increased weight on prognosis and the clinical course of many cancer types.
9. Right to psychological support: malnutrition and overweight considerably affect body image and can cause problems within families. Any patient likely to experience such problems has the right to receive appropriate and swift psychological support.
10. Right to participate in clinical nutrition trials: every cancer patient has the right to be enrolled in clinical studies on nutritional support at different stages of the disease.

CARTA dei DIRITTI DEL PAZIENTE ONCOLOGICO ALL' APPROPRIATO E TEMPESTIVO SUPPORTO NUTRIZIONALE

1-Diritto alla corretta informazione e al counseling nutrizionale

Ogni malato oncologico ha diritto a ricevere da parte di personale sanitario con documentate e riconosciute competenze di nutrizione clinica:

- informazioni esaustive, corrette e basate sulle evidenze cliniche riguardo al proprio stato di nutrizione, alle possibili conseguenze e esse associate e alle diverse opzioni terapeutiche nutrizionali;
- un counseling nutrizionale che fornisca indicazioni su come adeguare la propria alimentazione ai principi universalmente riconosciuti come utili nella prevenzione primaria e secondaria dei tumori, in relazione anche alle eventuali comorbidità, terapie mediche, chirurgiche o radioterapiche previste.

2-Diritto allo screening e alla valutazione dello stato nutrizionale

Ogni malato oncologico ha diritto allo screening nutrizionale finalizzato a individuare l'eventuale presenza del rischio di malnutrizione. Lo screening deve essere eseguito con strumenti validati alla diagnosi e ripetuto sistematicamente da parte dell'equipe curante a intervalli regolari, nel caso di neoplasie, che, per tipologia, stadio o trattamento, possono influenzare negativamente lo stato di nutrizione. Ogni malato a rischio di malnutrizione ha diritto alla valutazione completa e tempestiva del proprio stato nutrizionale da parte di personale sanitario afferente ai Servizi di Nutrizione Clinica o, comunque, con documentate e riconosciute competenze di nutrizione clinica. La valutazione nutrizionale deve essere parte integrante dei percorsi diagnostico-terapeutici e assistenziali elaborati dalle strutture oncologiche.

3-Diritto alle prescrizioni nutrizionali

Ogni malato oncologico malnutrito e con calo ponderale ha diritto alla prescrizione di un supporto nutrizionale appropriato da parte di personale medico afferente ai Servizi di Nutrizione Clinica o con documentate e riconosciute competenze di nutrizione clinica.

4-Diritto all'accesso all'integrazione nutrizionale orale

Ogni malato oncologico a rischio di malnutrizione ha diritto, in relazione alle condizioni cliniche e carenzezi presenti, su prescrizione di personale medico afferente ai Servizi di Nutrizione Clinica o con documentate e riconosciute competenze di nutrizione clinica, all'accesso gratuito agli integratori nutrizionali orali, compresi i supporti vitaminici e minerali.

5-Diritto a ricevere una nutrizione artificiale appropriata e tempestiva

La nutrizione artificiale è una metodica terapeutica complessa che richiede competenze mediche specifiche e che può presentare, se non condotta secondo criteri di qualità e sicurezza, complicanze anche gravi. Ogni malato oncologico a rischio di malnutrizione, non in grado di mantenere un soddisfacente stato di nutrizione attraverso il counseling nutrizionale ed eventuali integrazioni, ha diritto a ricevere sia in ospedale, sia nelle strutture residenziali, nell'ambito di un progetto di continuità assistenziale, un appropriato e tempestivo supporto di nutrizione artificiale, su prescrizione di personale medico afferente ai Servizi di Nutrizione Clinica o con documentate e riconosciute competenze di nutrizione clinica.

6-Diritto a ricevere una nutrizione artificiale domiciliare appropriata e sicura

Ogni malato oncologico che necessita di proseguire il supporto di nutrizione artificiale oltre i termini della degenza ospedaliera ha diritto a ricevere un trattamento di nutrizione artificiale domiciliare appropriato e sicuro, su prescrizione di personale medico afferente ai Servizi di Nutrizione Clinica o con documentate e riconosciute competenze di nutrizione clinica.

7-Diritto al monitoraggio del supporto nutrizionale

Ogni malato oncologico che necessita di un supporto nutrizionale ha diritto a ricevere la periodica rivalutazione dell'appropriatezza e dell'efficacia del trattamento da parte dell'oncologo e di personale sanitario afferente ai Servizi di Nutrizione Clinica o con documentate e riconosciute competenze di nutrizione clinica, nel contesto di percorsi sanitari integrati e condivisi da équipes multidisciplinari.

8-Diritto alla cura del sovrappeso associato alle terapie

Ogni malato oncologico ha diritto all'accesso gratuito ai Servizi di Nutrizione Clinica nell'ambito dei percorsi di riabilitazione oncologica durante e dopo i trattamenti attivi, al fine di recuperare il proprio peso ideale, anche in considerazione dell'impatto del sovrappeso sulla prognosi e sul decorso clinico di molte patologie neoplastiche.

9-Diritto al supporto psicologico

La malnutrizione per difetto e il sovrappeso incidono in modo rilevante sull'immagine corporea del malato e spesso innescano dinamiche intrafamiliari importanti. Ogni malato a rischio di variazioni significative del proprio stato nutrizionale ha diritto a un appropriato e tempestivo supporto psicologico gratuito.

10-Diritto a partecipare a studi clinici controllati in tema di nutrizione clinica

Ogni malato oncologico ha diritto, se lo desidera, a essere inserito in studi clinici controllati volti a contrastare la malnutrizione nelle diverse fasi della malattia.



F.A.V.O.
Federazione Italiana delle
Associazioni di Volontariato
in Oncologia



SINPE
Società Italiana di Nutrizione Artificiale e Metabolismo
Membro della Federazione delle Società Italiane di Nutrizione (FSIN)



Ministero della Salute

DIREZIONE GENERALE per L'IGIENE E LA SICUREZZA
DEGLI ALIMENTI E LA NUTRIZIONE

LINEE DI INDIRIZZO
SUI PERCORSI NUTRIZIONALI
NEI PAZIENTI ONCOLOGICI



Oggetto

DETERMINAZIONI IN MERITO ALL'ORGANIZZAZIONE DELL'OFFERTA SOCIOSANITARIA: APPROVAZIONE DELLE LINEE GUIDA PER L'ATTIVAZIONE E IL CONSOLIDAMENTO DELLE RETI CLINICO-ASSISTENZIALI REGIONALI



Regione Lombardia
LA GIUNTA

DELIBERAZIONE N° XI / 913

Seduta del 03/12/2018

Reti clinico-assistenziali e corrispondenti Enti Attuatori

Rete clinico-assistenziale	Ente Attuatore
Rete Cardiologica Lombarda	IRCCS Policlinico San Matteo di Pavia
Rete Dermatologica Lombarda	ASST Spedali Civili Brescia
Rete Diabetologica Lombarda	IRCCS Cà Granda Ospedale Maggiore Policlinico - Milano
Rete Ematologica Lombarda	ASST Grande Ospedale Metropolitano Niguarda
Rete Epatologica Lombarda	ASST Papa Giovanni XXIII
Rete Gastroenterologica Lombarda	IRCCS Cà Granda Ospedale Maggiore Policlinico - Milano
Rete Internistica Lombarda	ASST Ovest Milano
Rete Lombarda Accoglienza Medica Disabili	ASST Santi Paolo e Carlo
Rete Lombarda della Nutrizione Clinica	IRCCS Policlinico San Matteo di Pavia
Rete Lombarda della Riabilitazione	ASST Grande Ospedale Metropolitano Niguarda
Rete Lombarda della Terapia del dolore	ASST dei Sette Laghi
Rete Lombarda delle Cure Palliative	IRCCS Istituto Nazionale Tumori
Rete Lombarda delle Neuroscienze	IRCCS Istituto Neurologico Besta
Rete Lombarda delle Scienze Chirurgiche	ASST Fatebenefratelli Sacco
Rete Lombarda Malattie Infettive	ASST Fatebenefratelli Sacco
Rete Lombarda per l'integrazione e la governance dei PS	ASST Papa Giovanni XXIII
Rete Lombarda UOOML	IRCCS Cà Granda Ospedale Maggiore Policlinico - Milano
Rete Lombarda delle insufficienze d'organo e sistema regionale trapianti	IRCCS Cà Granda Ospedale Maggiore Policlinico - Milano
Rete Materno Neonatale e Pediatrico-adolescenziale	IRCCS Cà Granda Ospedale Maggiore Policlinico - Milano
Rete Nefrologica Lombarda	ASST Spedali Civili Brescia
Rete Oftalmologica Lombarda	ASST Fatebenefratelli Sacco
Rete Oncologica Lombarda	IRCCS Istituto Nazionale Tumori
Rete Ortopedica Lombarda	ASST Gaetano Pini
Rete Otorinolaringoiatrica Lombarda	ASST Santi Paolo e Carlo
Rete Pneumologica Lombarda	ASST Monza
Rete Reumatologica Lombarda	IRCCS Policlinico San Matteo di Pavia
Rete Trauma Lombarda	ASST Papa Giovanni XXIII
Rete Urologica Lombarda	ASST Spedali Civili Brescia

5. LA RISPOSTA ORGANIZZATIVA ATTRAVERSO UN PERCORSO INTEGRATO PER UN PROGRAMMA NUTRIZIONALE PERSONALIZZATO E INTEGRATO AL TRATTAMENTO ONCOLOGICO

Approvato in sede di Conferenza Stato Regioni, con Accordo (Rep. Atti n. 224/CSR) del 14/12/2017

Review

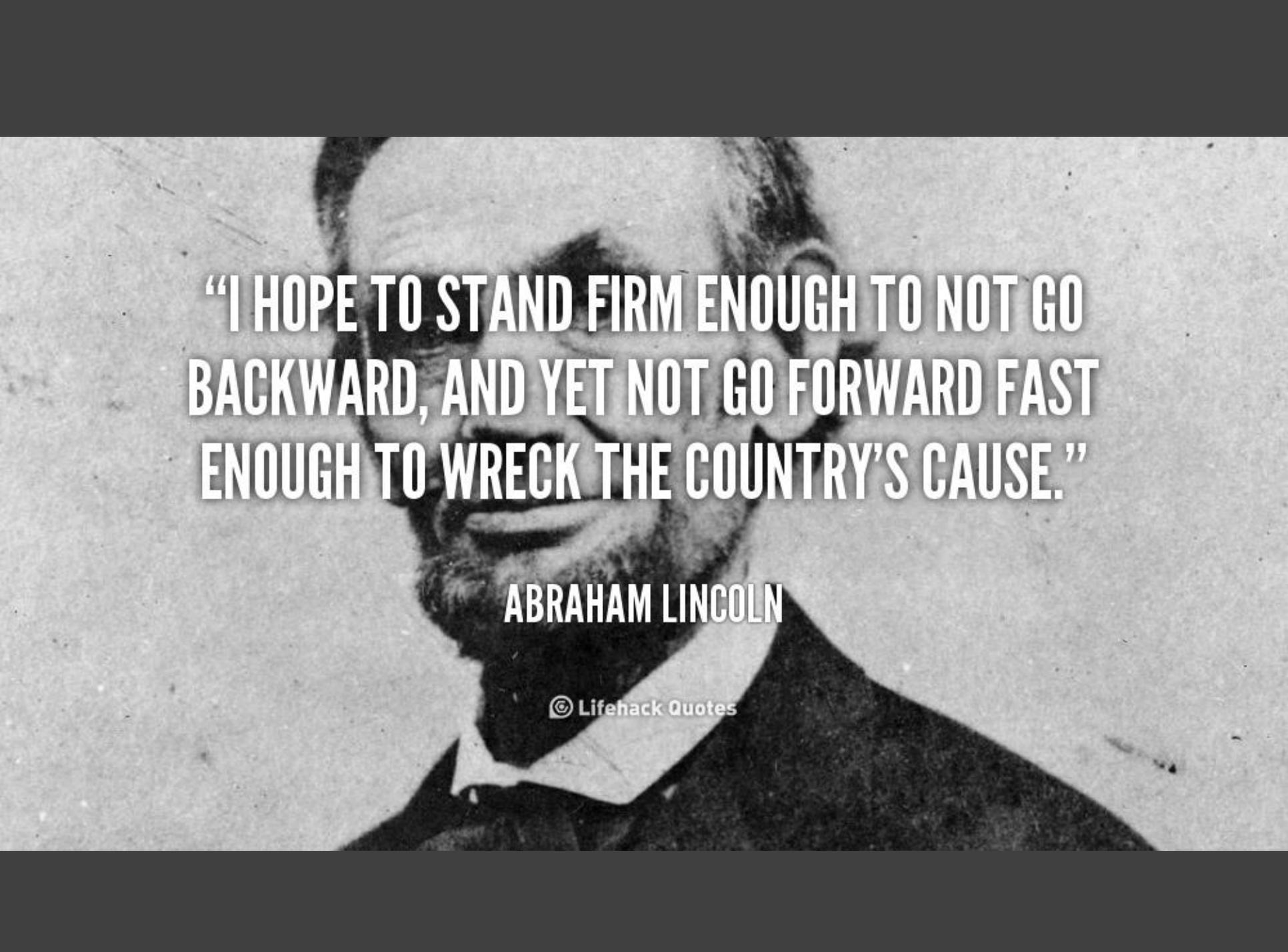
Nutritional Therapy in Cancer Patients Receiving Chemoradiotherapy: Should We Need Stronger Recommendations to Act for Improving Outcomes?

Paolo Cotogni^{1✉}, Paolo Pedrazzoli², Elisabeth De Waele³, Giuseppe Aprile⁴, Gabriella Farina⁵, Silvia Stragliotto⁶, Francesco De Lorenzo⁷, and Riccardo Caccialanza⁸; for the AIOM-SINPE-FAVO-Fondazione AIOM Working Group

Conclusions

One of the challenges during chemotherapy and radiotherapy is to complete the planned cycles and doses without dose-limiting toxicity. The relationship between dose-limiting toxicity and muscle mass loss has been clearly recognized. Similarly, malnutrition is a significant determinant of performance status and QoL.

In conclusion, the crucial question is: should we need stronger recommendations to act for improving outcomes? Well, the answer is no, but we certainly need more robust clinical data to convince the entire international Oncology community as soon as possible. Oncologists should be aware that nutritional therapy must be timely considered and prescribed, when indicated, to all malnourished or at-risk-of-malnutrition cancer patients receiving chemoradiotherapy, as any delay in nourishing these patients might compromise the potential benefits of nutritional therapy.

A black and white portrait of Abraham Lincoln, showing his head and shoulders. He has a full beard and is wearing a dark suit jacket over a white shirt and a dark tie. The background is a light, textured surface.

**“I HOPE TO STAND FIRM ENOUGH TO NOT GO
BACKWARD, AND YET NOT GO FORWARD FAST
ENOUGH TO WRECK THE COUNTRY’S CAUSE.”**

ABRAHAM LINCOLN

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