Association of Physician
Clinical Nutrition Specialist
Semarang Branch

PROCEEDING BOOK

The 3rd SEMARANG CLINICAL NUTRITION UPDATE

COMPREHENSIVE Clinical Nutrition UPDATE in Cancer

April 26-29, 2018 Gumaya Tower Hotel, Semarang

Cetakan pertama 2018

Semarang

ISBN 978-979-097-513-2

Persatuan Dokter Gizi Klinik Indonesia cabang Jawa Tengah. Comprehensive Clinical Nutrition Update in Cancer. Semarang. 2018

Kata Sambutan

Segala puji dan syukur kami panjatkan kepada Tuhan Yang Maha Esa atas terselenggaranya acara The 3rd Semarang Clinical Nutrition Update.

Sebagaimana kita ketahui bersama bahwa tantangan profesi dokter gizi klinik semakin besar, terkait dengan peran dokter gizi klinik di rumah sakit dalam memberikan pelayanan kesehatan, terutama dalam meminimalkan angka kejadian malnutrisi di rumah sakit.

The 3rd Semarang Clinical Nutrition Update merupakan bentuk partisipasi dalam berbagi ilmu dan pengalaman untuk meningkatkan kompetensi, profesionalitas dan semangat sejawat dokter gizi klinik serta mendukung perbaikan status gizi pasien dan peningkatan mutu pelayanan gizi di rumah sakit.

Terima kasih kepada semua pihak yang telah turut membantu terselenggaranya acara ini. Untuk itu kami mohon maaf sekiranya dalam pelaksanaan The 3rd Semarang Clinical Nutrition Update, masih terdapat kekurangan.

Akhirnya, besar harapan kami simposium ini dapat menambah kompetensi sejawat gizi klinik dalam memberikan penatalaksanaan pelayanan gizi klinik secara menyeluruh khususnya pada pasien kanker di rumah sakit.

Salam

dr. M.R Arientasari W.H, M.Kes, SpGK
Ketua Panitia The 3rd Semarang Clinical Nutrition Update

Kata Sambutan

Assalamu'alaikum Warahmatullahi Wabarakatuh

Salam sejahtera untuk kita semua

Syukur kepada Tuhan Yang Maha Esa atas terselenggaranya simposium dan workshop Semarang Clinical Nutrition Update (SCNU), semoga acara ini memberi manfaat bagi kita semua.

Para Senior, Guru Besar dan sejawat Sp.GK yang saya hormati dan saya banggakan, Semarang Clinical Nutrition Update yang merupakan kegiatan tahunan PDGKI Jawa Tengah kali ini mengangkat tema Comprehensive Clinical Nutrition Update in Cancer. Seperti yang telah kita ketahui bersama bahwa prevalensi kanker semakin meningkat, meningkatkan angka kematian, menurunkan angka produktivitas dan para era JKN saat ini menguras dana untuk pemeliharaan kesehatan. Kiprah Sp.GK yang terintegrasi dalam pelayanan pasien kanker di rumah sakit makin diperlukan demi terwujudnya penanganan komprehensif untuk mendukung luaran klinis pasien, mencegah terjadinya *hospital malnutrition* dan memperpendek masa rawat yang berujung pada penurunan biaya perawatan. Kegiatan SCNU ini sarat akan materi keilmuan dan *workshop* yang diharapkan akan menambah wawasan dan membekali para Sp.GK untuk memberikan pelayanan yang terbaik di manapun kita berada.

Akhir kata, saya mengucapkan terima kasih atas kerja keras ketua panitia beserta tim dalam mempersiapkan acara ini, serta para pembicara dan atas asupan ilmu yang diberikan. Ucapan terima kasih juga dihaturkan bagi seluruh mitra kerja yang turut andil dalam mensukseskan SCNU.

Selamat mengikuti SCNU, Semarang siap menyambut dengan kehangatan suasana dan kulinernya.

Wassalamu'alaikum Warahmatullahi Wabarakatuh

Prof. Dr. dr. Hertanto Wahyu Subagio, MS, Sp.GK(K)
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SCHEDULE

SCHEDULE OF SYMPOSIUM DAY 1 (SATURDAY, APRIL 28th 2018)

TIME	TOPIC	
07.30-08.00	**REGISTRATION**	
	SESSION I : CANCER CACHEXIA Moderator:	Dr. dr. Masrul, M.Sc, Sp.GK
08.00-08.15	Update on cancer cachexia: mechanism and nutritional implication	Prof. dr. Siti Fatimah Muis, M.Sc, Sp.GK(K)
08.15-08.30	Anti anorexigenic agents and nutritional manajement for cancer cachexia	Dr. dr. Darmono SS, MPH, Sp.GK(K)
08.30-08.45	Exercise and rehabilition management for cancer cachexia	Dr.dr.Zaenal Muttaqien Sofro, Sport&Circ.Med
08.45-09.00	Discussion	
09.00-09.40	Opening Ceremony	MC: dr. Martha Ardiaria, M.Si.Med
	Chaiman of the committee Speech	Prof. Dr. dr. Hertanto WS, MS., Sp.GK(K)
	PDGKI Chairman Speech	Prof. Dr. dr. Nurpudji A. Taslim, MPH, Sp.GK(K)
09.40-09.10	KEYNOTE SPEAKER	DIRJEN YANMED (dr.Bambang Wibowo Sp.OG (K), MARS)
10.10-10.25	Coffee Break	
10.25-11.25	TALK SHOW Moderator: Prof. Dr. dr. Hertanto Wahyu Subagio, MS, Sp.GK(K)	1. DIRJEN YanKes (dr.Bambang Wibowo Sp.OG (K), MARS) 2. Deputi Direksi BPJS (Dr. Andi Afdal, MM) 3. Ketua Umum PERSI (Dr. Kuntjoro AP, M.Kes) 4. Ketua Umum PDGKI (Prof. Dr. dr. Nurpudji A. Taslim, MPH, Sp.GK(K)

11.25-11.55	**LUNCH SIMPO :** Not all protein are the same quality matters	dr. M. R. Arientasari W. H, M.Kes, Sp.GK
11.55-12.55	Lunch + Prayer	
	SESSION II : Nutrition role in cancer prevention and management Moderator	dr. Olivia Widyarini, Sp.GK
12.55 -13.10	Clinical benefits of omega 3 fatty acid supplementation in cancer	Dr. dr. Gde Ngurah Indraguna Pinatih, M.Sc, Akp, Sp.GK
13.10 -13.25	The importance of gut health in cancer prevention and therapy	Dr.Med. dr. Maya Surjadjaja, MS, Sp.GK
13.25 -13.40	Food and drugs interaction in cancer patients	dr. Noor Wijayahadi, M.Kes,Ph.D
13.40 -13.55	Discussion	
13.55 -14.00	Poster Announcement (3 besar)	
	SESSION III : Pediatric oncology Moderator	dr. Febe Christianto, Sp.GK
14.00-14.15	Optimizing growth in paediatric patients with cancer	dr. JC. Susanto, Sp.A (K)
14.15-14.30	Cancer treatment and perioperative procedure in paediatric patient	dr. Edwin Basyar, M.Kes, Sp.B, Sp.BA
14.30-14.45	Nutrition therapy in paediatric patient with malignancy	Dr.dr. Mexitalia Setiawati, Sp.A(K)
14.45-15.00	Discussion	
15.00-15.20	Coffee break	
	SESSION IV : Geriatric oncology Moderator	dr. Annta Kern Nugrohowati, M.Si, Sp.GK
15.20-15.35	Cancer in elderly: metabolic changes & consequences	dr. H. Hadi Martono, Sp.PD-KGer
15.35-15.50	Palliatif care in cancer patient	dr. Ika Syamsul Huda MZ, Sp.PD, MPH, FINASIM
15.50-16.05	Nutritional approach in geriatric oncology	Prof. Dr. dr. Hertanto Wahyu Subagio, MS, Sp.GK (K)
16.05-16.20	Metabolomics alterations macro & micronutrient in geriatric oncology	Dr. dr. Masrul, M.Sc, Sp.GK
16.20-16.35	Discussion	

10.00-12.00	Parallel Section	
13.00-13.30	Presentasi poster (mencari 3 besar)	
15.00-15.30	Oral presentation (tiga besar) (paralel)	

SCHEDULE OF SYMPOSIUM DAY 2 (SUNDAY, APRIL 29th 2018)

TIME	TOPIC	
07.30 -08.00	**REGISTRATION**	
08.00-08.30	PLENARY LECTURE "The right of palliative care patients"	dr. Djoko Widyarto, JS, DHM, M.HKes
	SESSION I : **CANCER IN SPECIAL CONDITION** Moderator	Dr. Etisa Adi Murbawani, M.Si, Sp.GK
08.30-08.45	Cancer and pregnancy	Dr. dr. T. Mirza Iskandar, Sp.OG(K)
08.45-09.00	Gynecological malignancy	dr. Edi Wibowo Ambari. Sp.OG(K)
09.00-09.15	Nutrition management in obstetrical and gynecological malignancy	Prof. Dr. dr. Nurpudji A. Taslim, MPH, Sp.GK(K)
09.15-09.30	Discussion	
09.30-09.50	Coffee break	
	SESSION II : **CANCER MANAGEMENT: NON SURGICAL** Moderator	Prof. dr. M. Sulchan, SpGK (K), DA. Nutr
09.50-10.05	The effects of chemotherapy in cancer patients	Prof. dr. C. Suharti, PhD, Sp.PD(K)HOM
10.05-10.20	The effect of radiotherapy in cancer patients	dr. C. Nawangsih, Sp.Rad(K)Onk.Rad
10.20-10.35	Nutrition therapy in chemotherapy and radiotherapy patients (include netropenic diet)	Dr. dr. Fiastuti Witjaksono, MS, MSc, Sp.GK(K)
10.35-10.50	Discussion	
10.50-11.10	Cancer Survivor Testimony	

11.10 -11.40	**LUNCH SYMPOSIUM** Body composition monitoring in cancer patients	dr. Niken Puruhita, MMedSc, Sp.GK(K)
11.40 -13.00	Lunch + Prayer	
	SESSION III : **PERIOPERATIVE MANAGEMENT IN CANCER PATIENTS** Moderator	dr. Minidian Fasitasari, M.Sc,SpGK
13.00 -13.15	Metabolic changes and consequences of surgery in cancer patients	Dr. dr. Selamat Budijitno, M.Si.Med, Sp.B(K)Onk
13.15 -13.30	Enhanced Recovery After Surgery (ERAS) Procedure and perioperative management in gastrointestinal malignancy	dr. Erik Prabawo, M.Si.Med, Sp.B-KBD
13.30 -13.45	Perioperative nutrition in patients with cancer focused on glutamine	dr. Ida Gunawan, MS, Sp.GK(K)
13.45-14.00	Discussion	
14.00-14.45	**SESSION IV :** **Pros and Cons ketogenic diet in cancer manajemen** Moderator Pro Contra	dr. Amalia Sukmadianti, Sp.GK Dr. dr. Gaga Irawan Nugraha, MS, Sp. GK dr. Agussalim Bukhari, M.Med, Ph.D Sp.GK(K)
14.45-15.00	Discussion	
15.00-15.15	Announcement poster competition and oral paper presentation Door Prize	dr. M. R. Arientasari W. H, M.Kes, Sp.GK

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POSTER ABSTRACTS

S 1.4.4

Metabolomics Alterations Macro- And Micronutrients In Geriatric Oncology

Masrul

ABSTRACT

Recently 11 million people have suffered to malignant tumors worldwide every year. Due to the age-depending cancer incidence and the ageing population, the number of new cancer cases is expected to double until the year 2030. Older subjects, >70 years represent more than 40% of patients with cancer. Diagnosis and treatment of older patients is one of the priorities of the cancer campaign. Cancer patient is facing progressive malnutrition conditions with frequent after 70 years of age due to inadequate dietary intake and insufficient supply of macro- and micronutrients. The supportive nutrition care for geriatric oncological patients is a central importance. Malnutrition is associated with and aggravated by a higher metabolic turnover rate observed in many cancer patients which increas whole body protein turnover with elevated protein catabolism combined with persistent degradation of muscle protein and increased lipolysis with higher lipid oxidation. The tendency of muscle loss in cancer causes by many factors including patient's age, physical activity and cancer related protein metabolism influence the skeletal muscle. Also drugs commonly used in chemotherapy are known to cause negative nitrogen balance. Increased carbohydrate intake and reduced the intake of animal products, inducing far lower levels of protein and fat as proportions of the total caloric intake and relatively higher carbohydrate intakes related to better prognosis for elderly Asian cancer patients. Micronutrient deficiency caused by the cancer disease compromises wound healing, so that there is a higher risk of complications after surgical interventions and also associated with a higher risk of depressive symptoms especially of some B vitamins, and comprimise the immune competence by reduced high proliferation immune cells due to high nutrient need. Increased micronutrient supply is recommended like vitamin C, vitamin A, vitamin B6, folic acid, zinc, copper to improve postoperative wound healing. Aministration long-chain omega-3 fatty acids recommended improving weight loss and tumor cachexia. Application a multi- vitamin-multimineral supplement in physiological doses is a usefull but avoided the use of single high-dose micronutriets. Nutritional intervention accompanying curative treatment has an important role in geriatric oncoly which is to increase the tolerance and response to the oncology treatment, decrease the rate of complications and possibly reduce morbidity by optimizing the balance between energy expenditure and food intake.

Metabolomics Alterations Macro- and Micronutrients In Geriatric Oncology

Dr. dr. Masrul, M.Sc, SpGK

Department of Nutrition Faculty of Medicine Andalas University

Outline

1. Background
2. Malnutrion in eldery cancer patients
3. Metabolomics alteration of macro- and micronutrients in elderly cancer patients
4. Conclusion

1. Background

1.1 Incidence of cancer most in elderly people

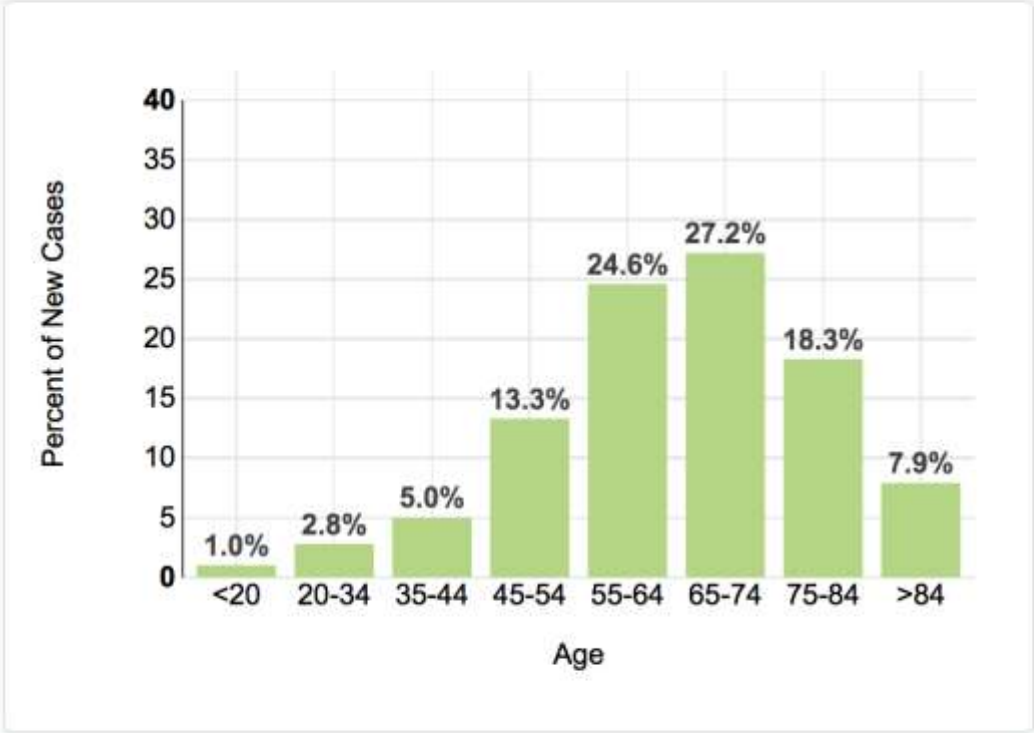
People >65 years are 11 times more likely to develop cancer than those 25-44

Incidence of all cancer combined has been increasing since 1970s – but biggest increase has been in 75 and over group

Incidence increases with age until 80-84 then begins to decline 85+!

1.2 Age-spesific incidence rates for all cancers

Percent of New Cases by Age Group: Cancer of Any Site



Cancer of any site is most frequently diagnosed among people aged 65-74.

Median Age At Diagnosis

66

SEER 18 2011-2015, All Races, Both Sexes

1.3 Clinicopathology Features Young Indonesian Breast Cancer

Breast cancer in Indonesian young women **<47y showed**:

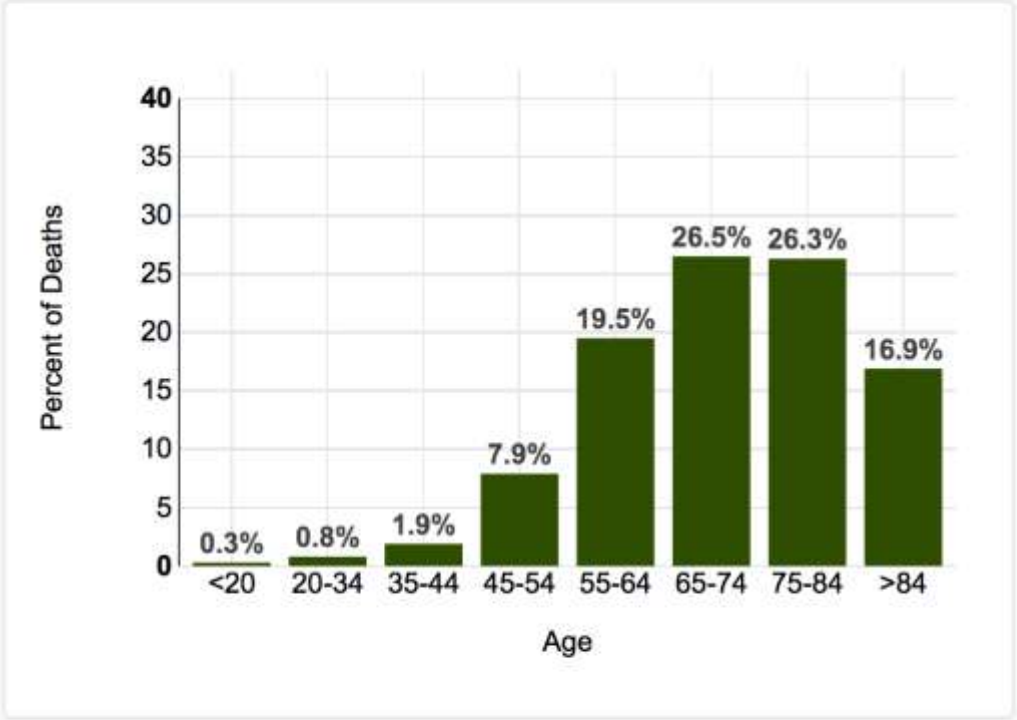
- ✧more aggressive phenotype than inelderly patients,
- ✧larger tumor size
- ✧more lymph node involvement
- ✧higher c-erbB2 and p53 expression

1.4 Mortality

- Mortality rates rise with advancing age, and continue to rise in oldest group
- Overall survival rates improving but at slower rate in older people -> so widening gap
- UK worse outcomes than other Europe/US

1.5 Age-specific mortality for all cancers

Percent of Deaths by Age Group: Cancer of Any Site

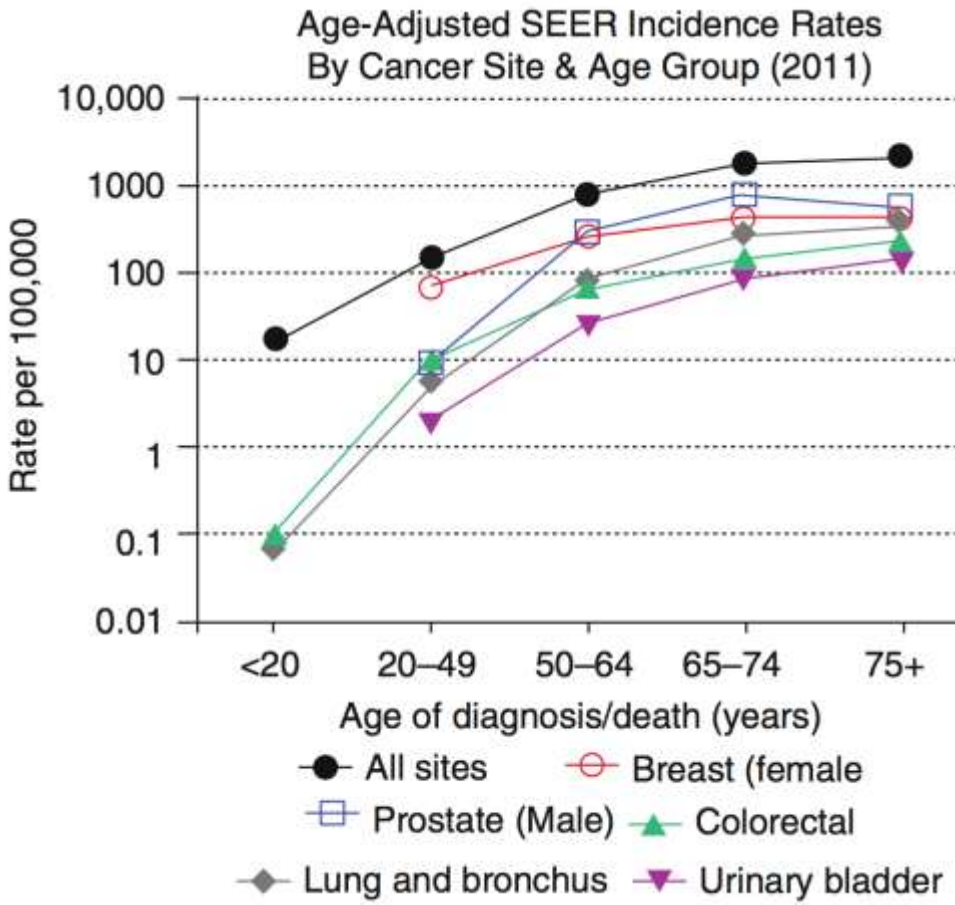


The percent of cancer of any site deaths is highest among people aged 65-74.

Median Age At Death
72

U.S. 2011-2015, All Races, Both Sexes

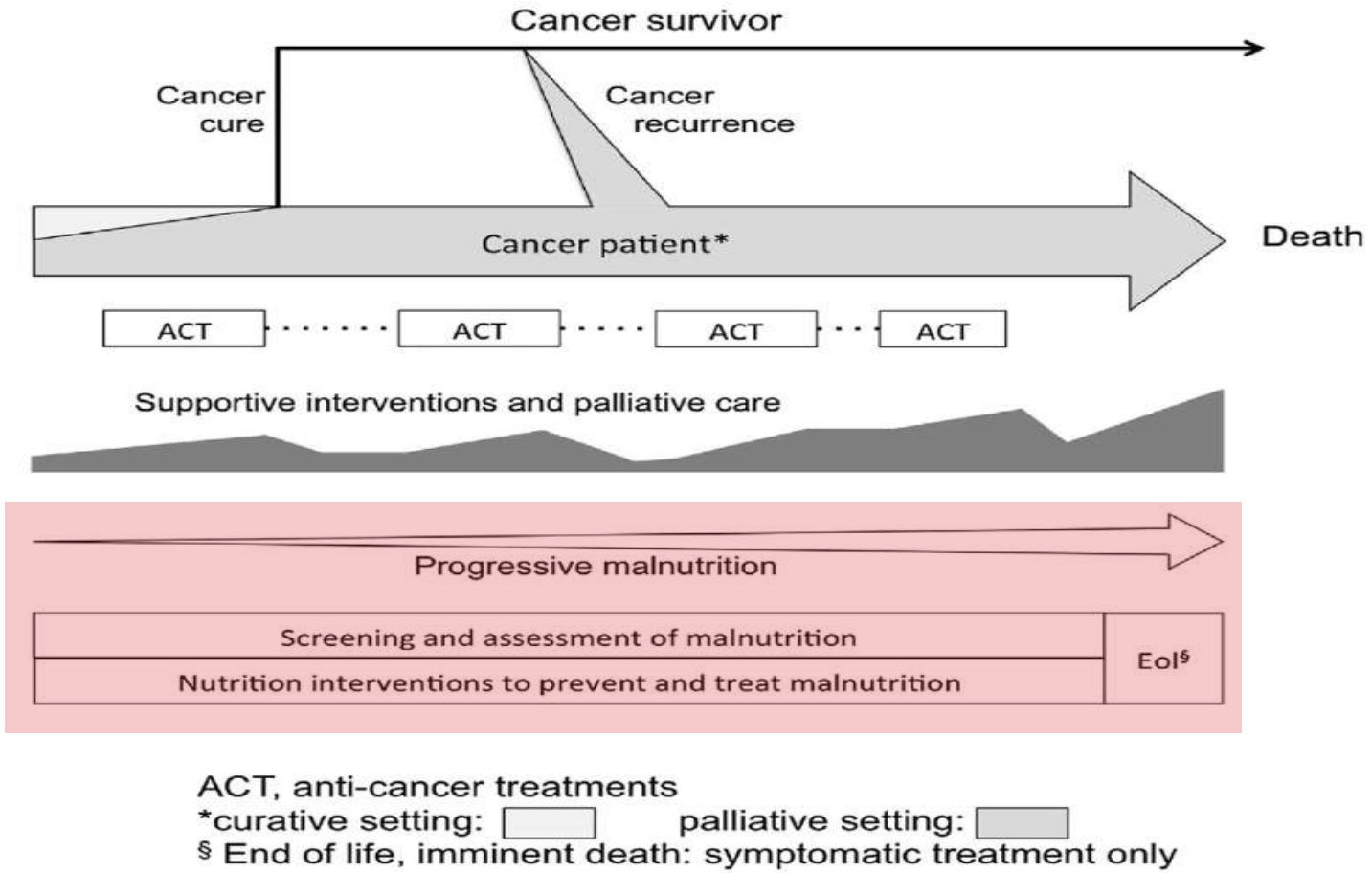
1.6 Age-specific mortality rates for all cancers



Shenghui He and Norman E. Sharpless, 2016

2. Malnutrition in Elderly Cancer Patients

2.1 Cancer patient is facing progressive malnutrition condition



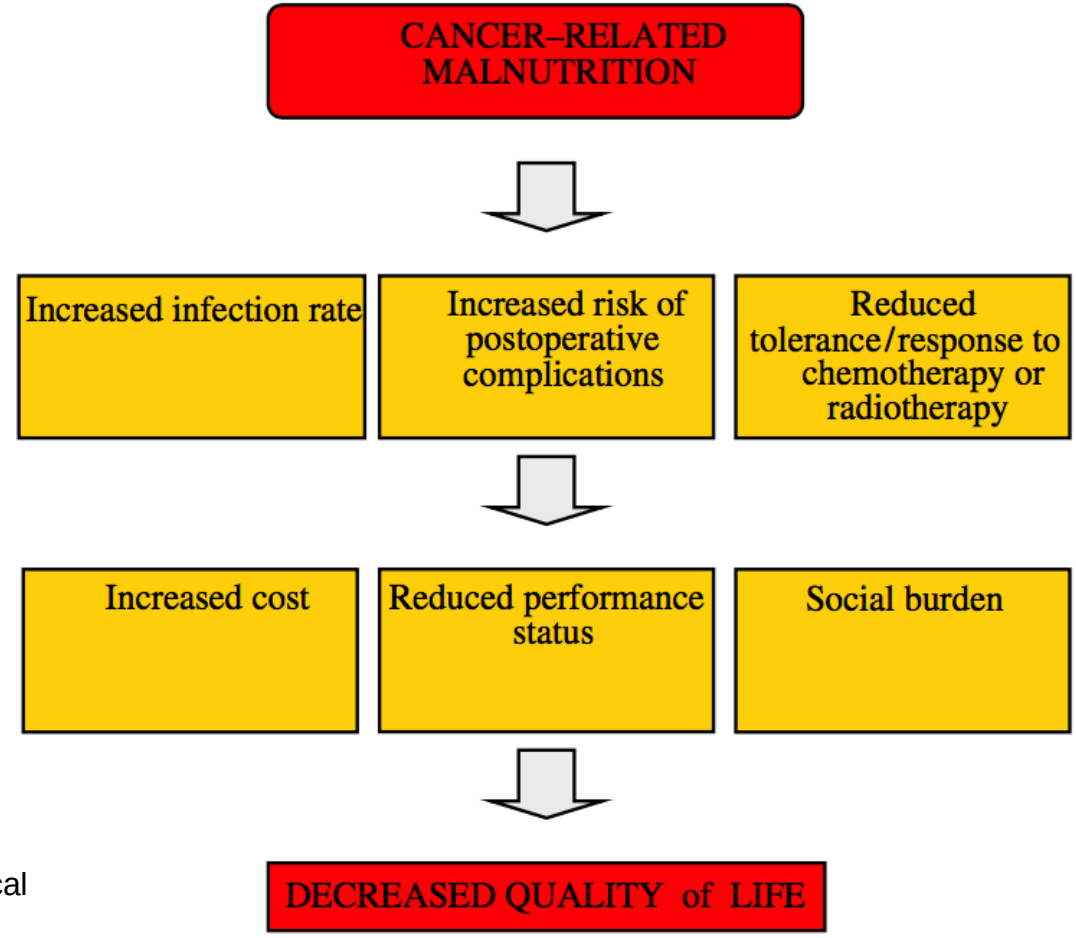
J. Arends et al. / Clinical Nutrition 36 (2017) 11-48

2.2 Prevalence of Malnutrition at various cancer site

Tumor Site	Prevalence of Malnutrition
Pancreas	80-85%
Stomach	65-85%
Head & Neck	65-75%
Esophagus	60-80%
Lung	45-60%
Colon/Rectum	30-60%
Gynecological	15%
Urological	10%

Stratton et al, eds. Disease-Related Malnutrition: An Evidence-Based Approach to Treatment. CABI Publishing; Wallingford:2003.

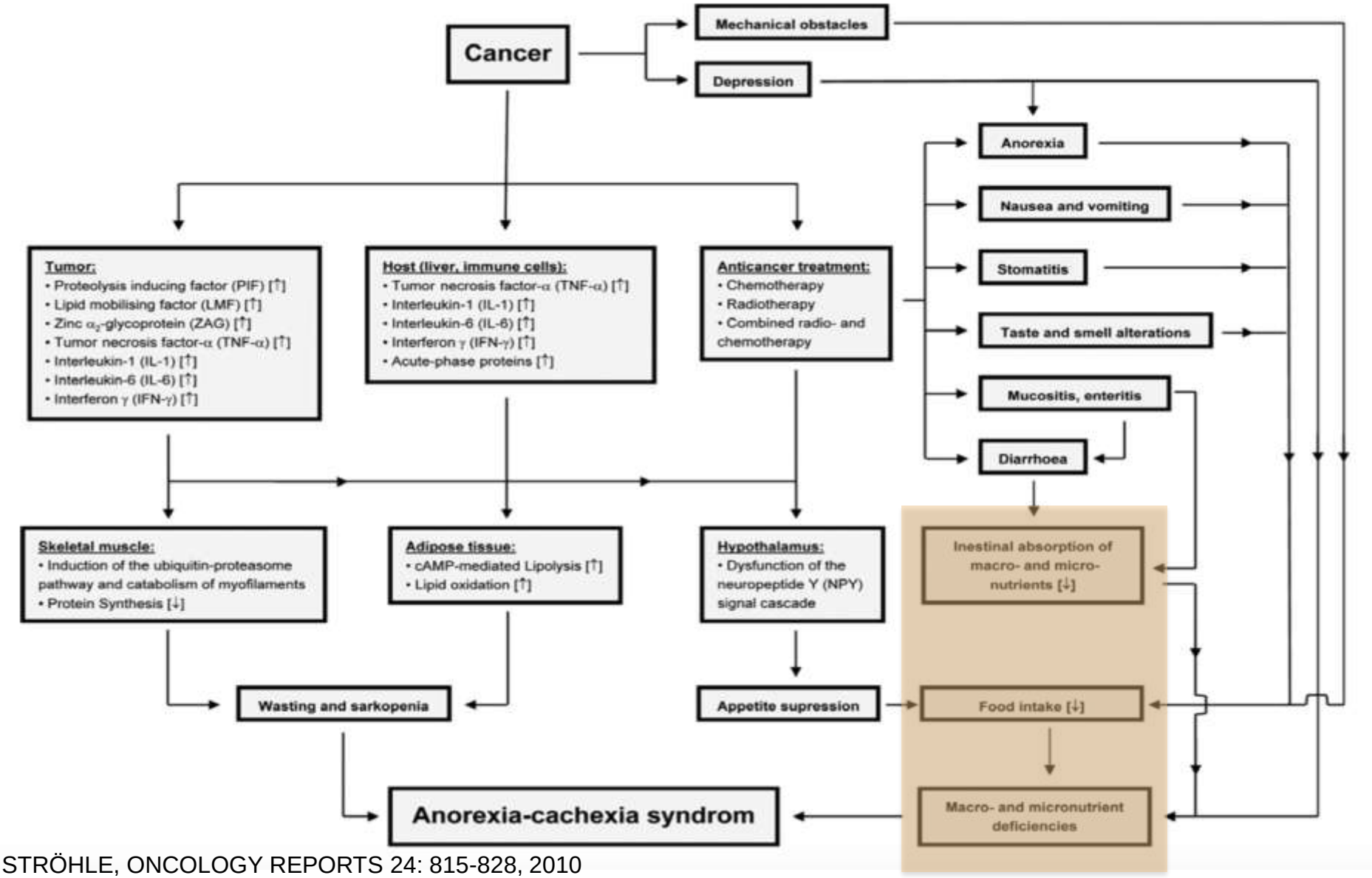
2.3 Cancer-related malnutrition has a major impact on clinical evolution and socioeconomics, and reduces quality of life



M.M. Marin Caro et al. , Clinical Nutrition (2007) 26, 289–301

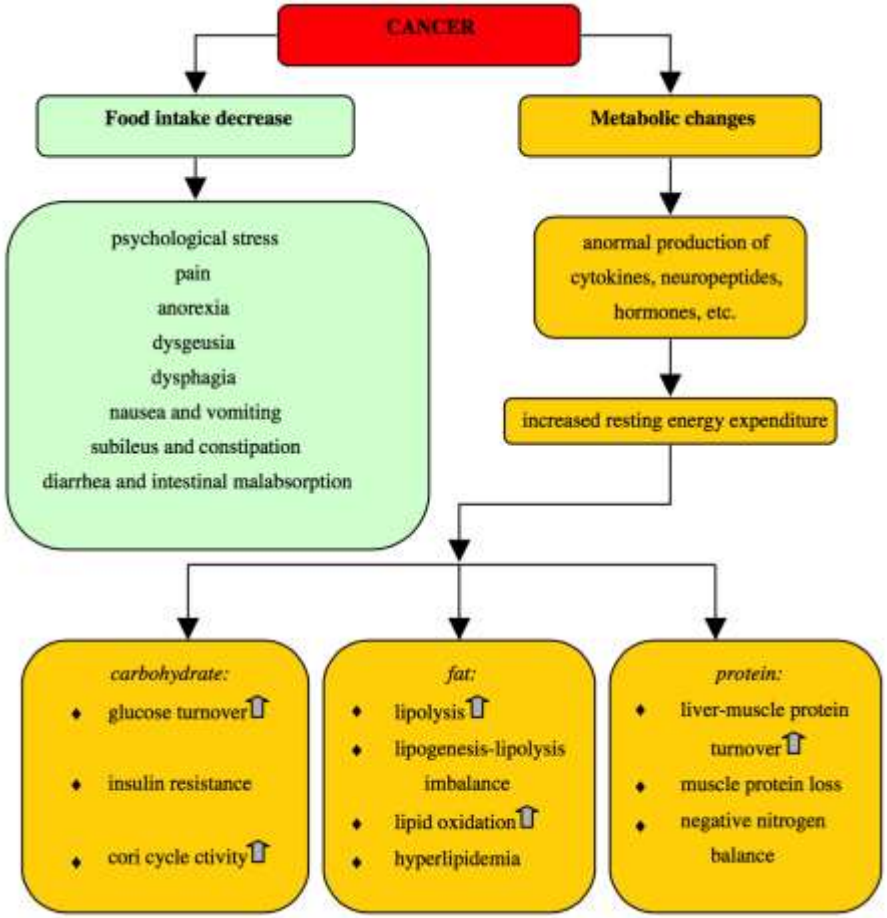
3 Metabolomic Alteration

3.1 Multifactorial genesis of tumor-associated malnutrition and cachexia



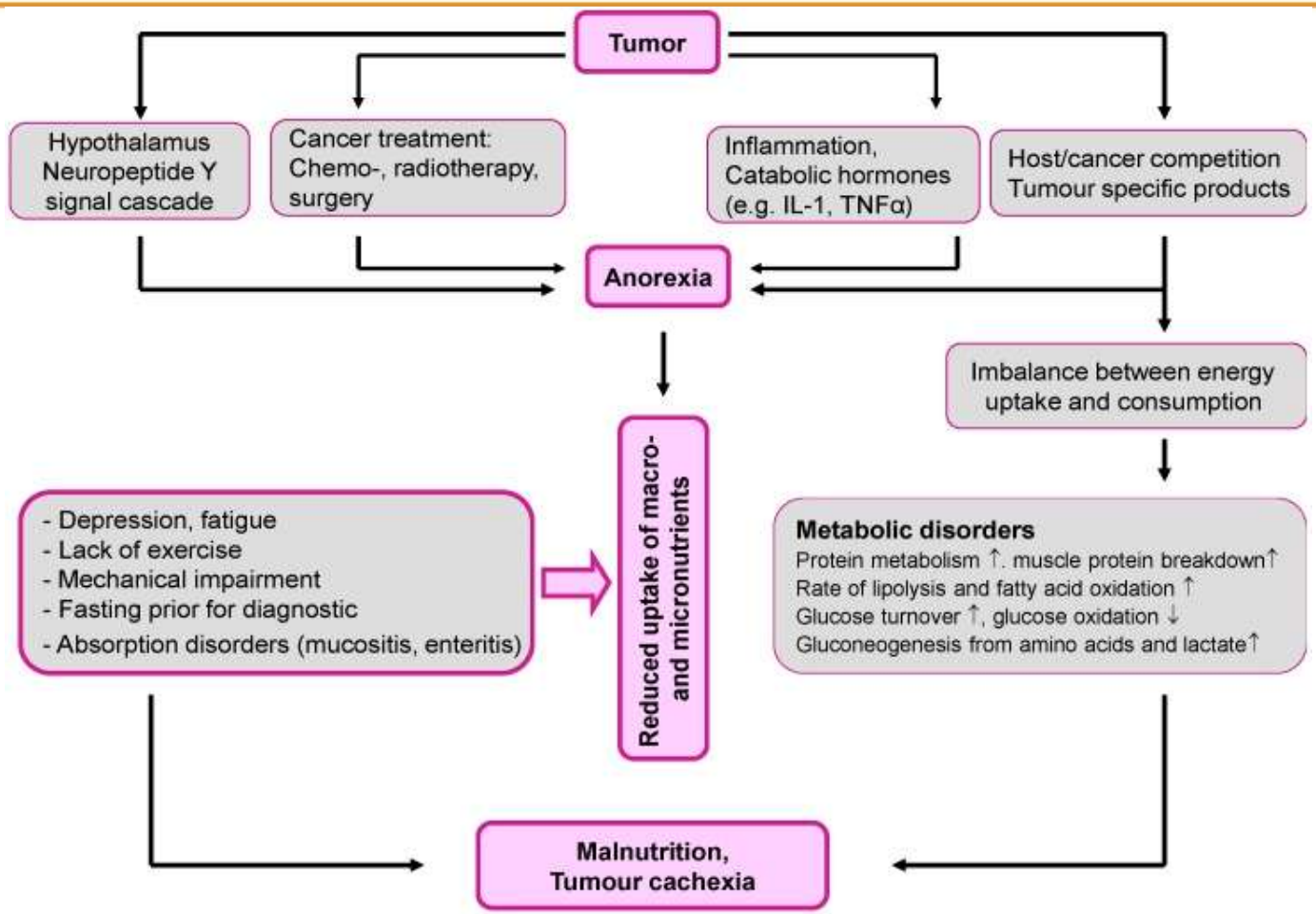
STRÖHLE, ONCOLOGY REPORTS 24: 815-828, 2010

3.2 Metabolic abnormalities in cancer patients



M.M. Marin Caro et al. , Clinical Nutrition (2007) 26, 289–301

3.3 Causes of macro- and micronutrient deficiencies in cancer



M.M. Marin Caro et al. , Clinical Nutrition (2007) 26, 289–301

3.4 Micronutrients deficits in cancer patients

Micronutrients Defeciency	Metabolic effects
Vitamin A	• Weakening the skin-mucosa barrier and increasing infection risk • Proliferation and cytotoxicity of T-lymphocytes ↓ • Antigen-specific response ↓ • Proinflammatory effect (TNF-synthesis ↑) • Change in TH1:TH2 ratio in favor of TH1
Vitamin E	• Antigen-specific response ↓ • Proliferation and cytotoxicity of T-lymphocytes ↓ • Phagocytosis ↓
Vitamin B_6	• Lymphocyte maturation and proliferation ↓ • T-lymphocyte activity ↓ • Antibody formation ↓ • Interleukin-2 synthesis of T-helper cells ↓
Folic acid	• Thymus weight ↓ • Neutrophil activity↓ • Cytotoxicity of T-lymphocytes ↓ • Antibody formation ↓ • L ymphocyte proliferation ↓ • Activity of natural killer cells ↓

Cont…3.4 Micronutrients deficits in cancer patients

Micronutrients Defeciency	Metabolic effects
Vitamin B_{12}	•Neutrophil activity ↓ • Activity of natural killer cells ↓
Iron	• Secretion of interferon-Á, TNF-· and interleukin 2 ↓ • Activity of natural killer cells ↓ • T-cell proliferation ↓ • Bactericidal activity of macrophages ↓
Zinc	• Interferon-Á and interleukin 2 synthesis ↓ • Activity of natural killer cells ↓ • Macrophage activity↓ (phagocytosis ↓; bactericidal effect ↓, chemotaxis ↓) • T-cell activity ↓ • Thymus atrophy
Selenium	• Proinflammatory eicosanoid synthesis ↑ • Antibody formation ↓ • Lymphocyte proliferation ↓ • Cytotoxicity of immune competent cells ↓

3.5 Nutritional suggestion for geriatic oncology patients based on metabolic alterartion

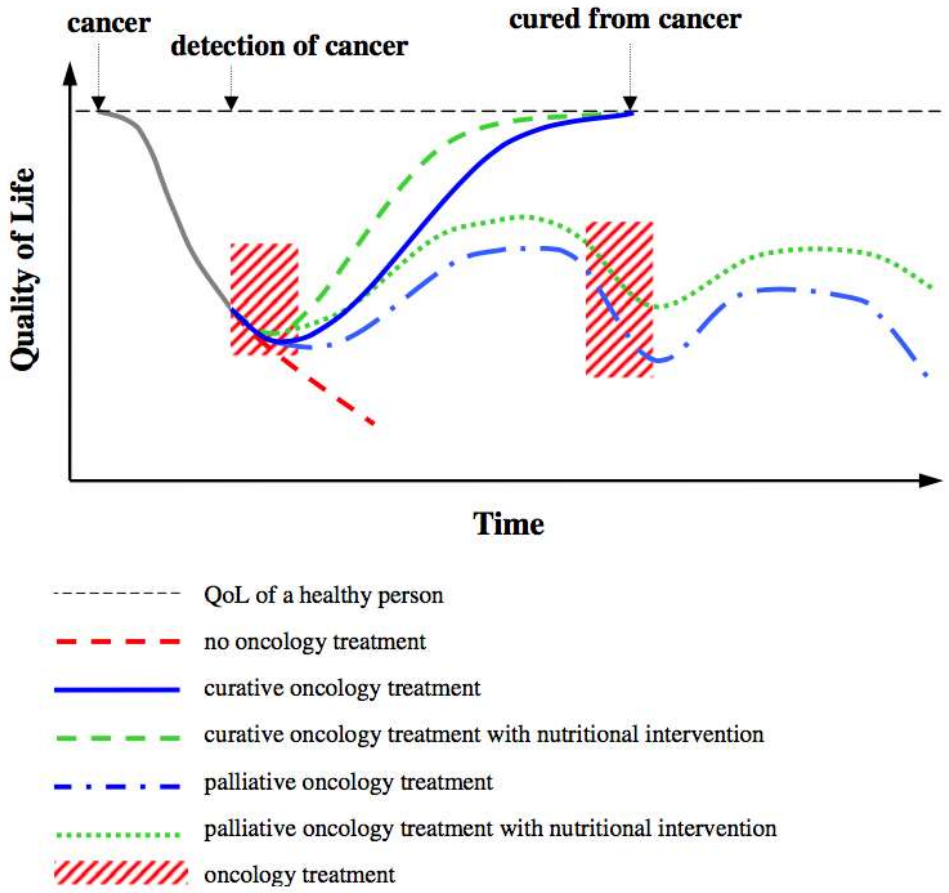
Macronutriens

Increased carbohydrate intake and reduced the intake of animal products, inducing far lower levels of protein and fat as proportions of the total caloric intake and relatively higher carbohydrate intakes related to better prognosis for elderly Asian cancer patients.

Micronutrients

Increased micronutrient supply is recommended like vitamin C, vitamin A, vitamin B6, folic acid, zinc, copper to improve postoperative wound healing. Administration long-chain omega-3 fatty acids recommended improving weight loss and tumor cachexia. Application a multi- vitamin-multimineral supplement in physiological doses is a useful but avoided the use of single high-dose micronutrients.

3.6 Combination of nutritional support and oncology treatments promotes the quality of life



M.M. Marin Caro et al. , Clinical Nutrition (2007) 26, 289–301

Conclusion

1. Cancer induced weight loss results in:
   - Decreased quality of life
   - Increased complications
   - Poorer response to therapy
2. Malnutrion and cachexia in geriatric oncology patients caused by Multifactorial
3. Macronutrient and micronutrients profiles is related to daily dietary
4. Micronutrients supplementation have beneficial way to support wound healing; to counteract tumor cachexia; and in the longer term to improve the patient's quality of life and prognosis.
5. Combination of nutritional support, palliative and oncology treatments increased quality of life elderly cancer patients


Thank you