Modulo 007_RES - LOCANDINA

Revisione n. 3
Data di emissione : 1 settembre 2017
Aprovato ed emesso in originale

S.S. FORMAZIONE PERMANENTE E AGGIORNAMENTO

Evento Formativo Residenziale

ONCOEMATOLOGIA E SERVIZI TERRITORIALI

DATE

26 aprile 2018

ORARIO

Dalle ore 9.30 alle ore 16.30

SEDE

Aula Dipartimento
Rete Oncologica, Torino

ECM REGIONE PIEMONTE

CODICE : 29803 Crediti: 7

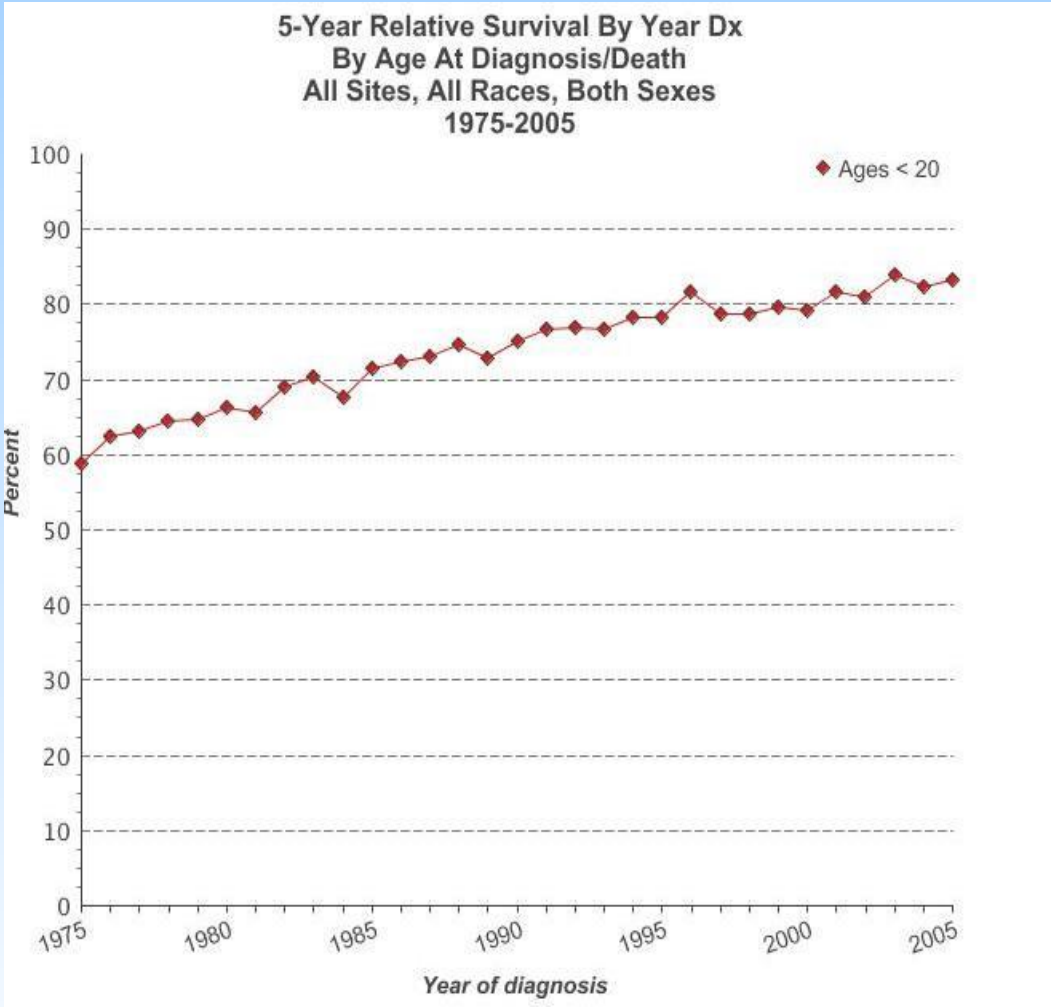
I controlli a lungo termine dopo la guarigione di una neoplasia ematologica

Enrico Brignardello

Background

• Nel corso degli ultimi 40 anni le percentuali di guarigione sono notevolmente aumentate ed oggi la maggior parte dei bambini e degli adolescenti a cui viene diagnosticata una neoplasia "guarisce" e diventa un ***childhood cancer survivors*** **(CCS).**

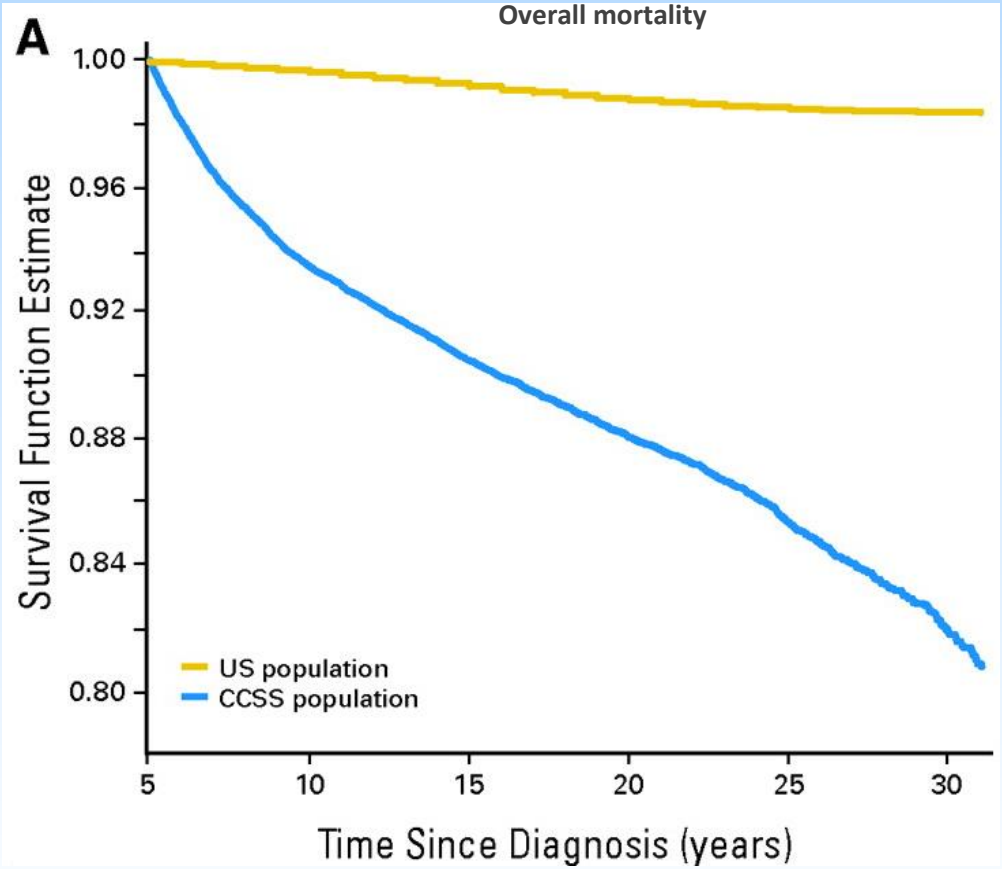
• Attualmente 1/450 adulti fra 20 e 45 anni è "guarito" da una neoplasia dell'età evolutiva, e si stima che nell'anno 2020 il rapporto sarà 1/350.



SEER Cancer Statistics, NCI

Background

Il concetto di "guarigione" fa riferimento alla guarigione dal tumore primitivo, indipendentemente da ogni **eventuale rischio o presenza di alterazioni patologiche riferibili a tossicità tardiva delle cure**.



I soggetti guariti da una neoplasia dell'età evolutiva risultano infatti spesso affetti da patologie inquadrabili come **complicanza cronica** dei pregressi trattamenti antitumorali.

La mortalità complessiva è 18.1% (95% CI, 17.3 to 18.9) a 30 anni dalla diagnosi di tumore pediatrico

Armstrong et al., JCO, 2009

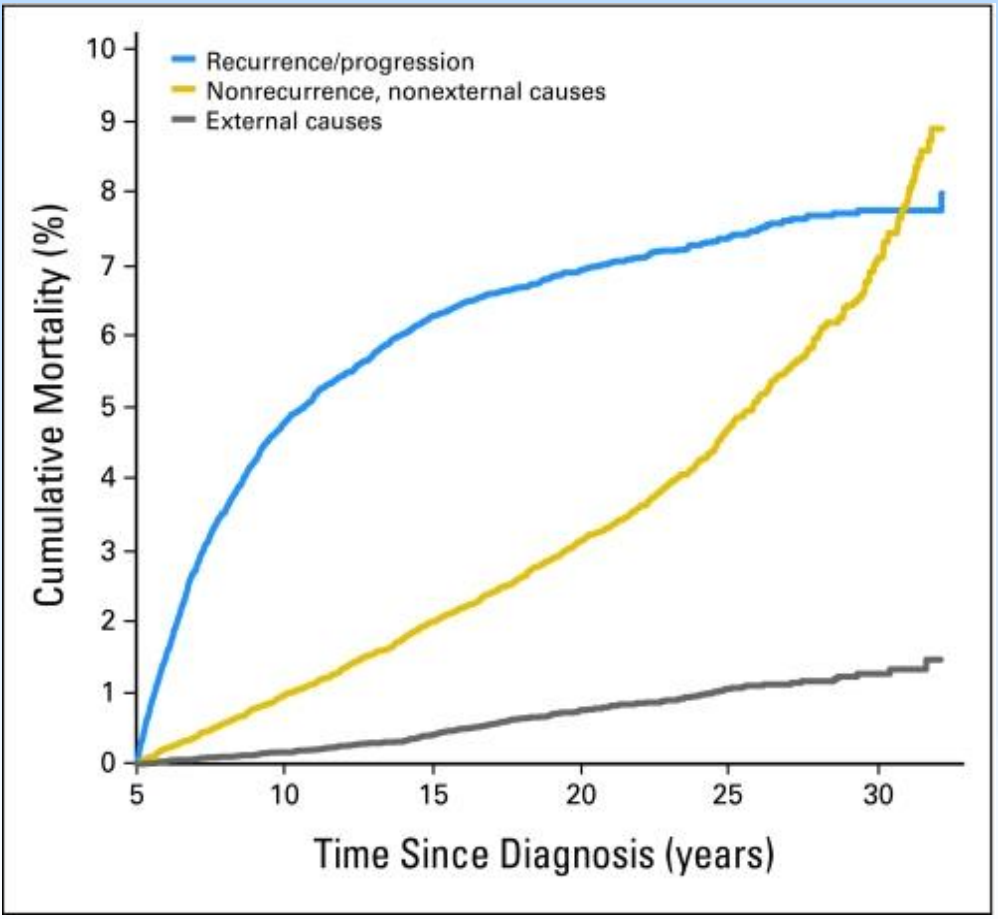
VOLUME 27 · NUMBER 14 · MAY 10 2009

JOURNAL OF CLINICAL ONCOLOGY

REVIEW ARTICLE

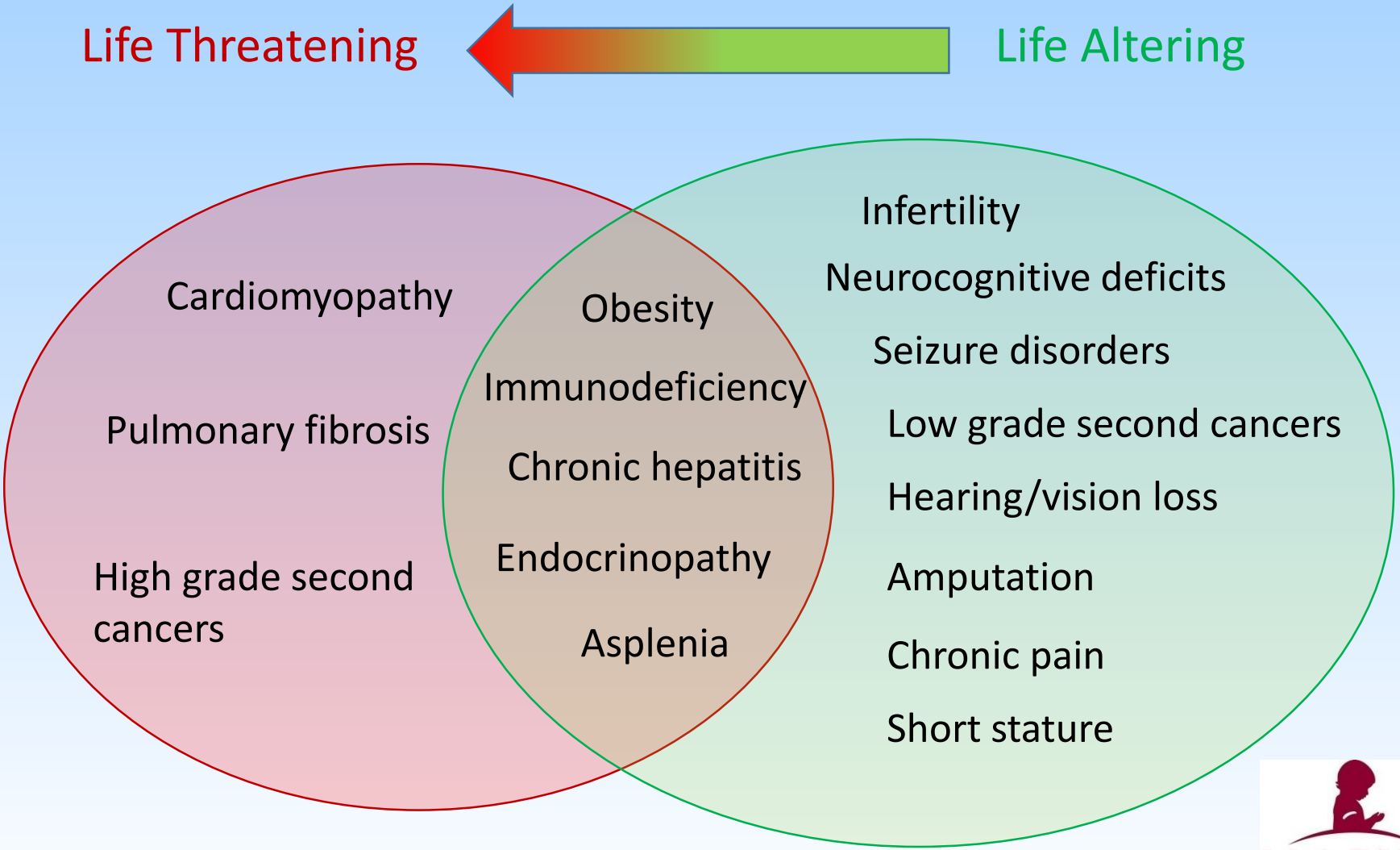
Late Mortality Among 5-Year Survivors of Childhood Cancer: A Summary From the Childhood Cancer Survivor Study

Gregory T. Armstrong, Qi Liu, Yutaka Yasui, Joseph P. Neglia, Wendy Leisenring, Leslie L. Robison, and Ann C. Mertens



- With time mortality attributable to recurrence or progression of primary disease is decreasing, with **increases in rates of mortality attributable to late effects** of anticancer treatments.
- **Subsequent noplasms** (SMR, 15.2; 95% CI, 13.9 to 16.6) and **cardiac death** (SMR, 7.0; 95% CI, 5.9 to 8.2) are the most common cause of death.

Spectrum of Physical Late Effects



Categories of system-based chronic and late medical and neuropsychologic health events graded in the SJLIFE study

Unchanged from CTCAE v4.03 ($n = 91$) | Novel as compared with CTCAE v4.03 ($n = 23$) | Modified from CTCAE v4.03 ($n = 94$)

AUDITORY•HEARING
- Cerumen impaction
- Cholesteatoma
- Tinnitus
- Vertigo
- Hearing loss

CARDIOVASCULAR
- Arteriovenous malformation
- Atrioventricular block
- Cor pulmonale
- Dysrhythmia
- Pulmonary hypertension
- Raynaud phenomenon
- Thrombus
- Vascular disease
- Aortic root aneurysm
- Bradycardia, sinus
- Conduction abnormality
- Congestive heart failure
- Coronary artery disease
- Heart valve disorder
- High total cholesterol
- Hypertension
- Hypertriglyceridemia
- LV systolic dysfunction
- Pericarditis
- Prolonged QTc interval
- RV systolic dysfunction
- Tachycardia, sinus

ENDOCRINE
- Diabetes insipidus
- GH excess
- Hyperprolactinemia
- SIADH secretion
- Overweight/obesity
- Underweight
- Abnormal glucose metabolism
- Adrenal insufficiency

ENDOCRINE (CONT.)
- Adult GH deficiency
- Childhood GH deficiency
- Hyperparathyroidism
- Hyperthyroidism
- Hypoparathyroidism
- Hypothyroidism

GASTROINTESTINAL
- Bowel perforation
- Celiac disease
- Dysphagia
- Enterocolitis
- Esophageal varices
- Esophagitis
- Fecal incontinence
- Gastritis/duodenitis
- Gastrointestinal reflux disease
- Gastrointestinal fistula
- Gastrointestinal necrosis
- Gastrointestinal obstruction
- Gastrointestinal strictures
- Gastroparesis syndrome
- Malabsorption syndrome
- Pancreatic insufficiency
- Pancreatitis
- Proctitis
- Sialoadenitis
- Gastrointestinal hemorrhage
- Gastrointestinal ulcer

HEPATOBILIARY
- Veno-occlusive disease
- Hepatopathy
- Portal hypertension
- Fibrosis/cirrhosis
- Cholecystitis/cholelithiasis
- Constipation
- Hepatic failure

HEMATOLOGIC
- Thrombocytopenia
- Thrombocytosis
- Iron overload
- Anemia
- Coagulopathy
- Neutropenia
- Polycythemia

IMMUNOLOGIC
- Autoimmune disorders
- Graft-versus-host disease
- Immunodeficiency

INFECTIOUS
- Bronchial/lung infection*
- Endocarditis
- Gastrointestinal infection
- Genitourinary infection
- Hepatitis B, chronic
- Hepatitis C, chronic
- HIV infection
- Lymphatic infection
- Meningoencephalitis
- Osteomyelitis
- Otitis media*
- Pelvic inflammatory disease
- Pharyngitis/tonsillitis*
- Sinusitis*
- Soft tissue infection

MUSCULOSKELETAL
- Arthralgia
- Arthritis
- Dental maldevelopment
- Hernia
- Intervertebral disc disorder
- Palatal defects, acquired
- Prosthetic malfunction
- Skeletal spine disorder

MUSCULOSKELETAL (CONT.)
- SCFE
- TMJ disorder
- Amputation
- BMD deficit (pediatric)
- BMD deficit (adult)
- Kyphosis
- Limb length discrepancy
- Osteonecrosis
- Scoliosis

NEUROLOGIC
- Autonomic dysfunction
- Cavernoma
- Cerebellar dysfunction
- Cerebral necrosis
- Cerebrovascular accident
- Cerebrovascular disease
- Hydrocephalus
- Hydrosyringomyelia
- Multiple sclerosis
- Nerve root disorder
- Neuromuscular disorders
- Peripheral motor neuropathy
- Peripheral sensory neuropathy
- Pseudomeningocele
- Shunt malfunction
- Seizures
- Cranial nerve disorder
- Dysarthria
- Headaches*
- Intracranial hemorrhage
- Movement disorders
- Narcolepsy
- Neurogenic bladder
- Neurogenic bowel
- Paralytic disorder
- Pseudotumor cerebri

NEUROCOGNITIVE
- Attention deficit
- Executive function deficit
- Fine motor dexterity deficit
- Memory deficit
- Processing speed deficit

OCULAR/VISUAL
- Dry eye syndrome
- Eyelid function disorder
- Glaucoma
- Ocular disease, noninfectious
- Ocular surface disease
- Photophobia
- Phthisis bulbi
- Retinopathy
- Strabismus
- Cataract
- Diplopia
- Orbital prosthetic complication
- Retinal detachment
- Visual acuity, reduced (OD)
- Visual acuity, reduced (OS)
- Visual field deficit

PULMONARY
- Epistaxis
- Respiratory tract hemorrhage
- Tracheal aspiration
- Tracheal stenosis
- Obstructive sleep apnea
- Obstructive ventilatory defect
- Pulmonary diffusion defect
- Restrictive ventilatory defect
- Asthma
- COPD
- Pleural space disorder
- Pneumonitis
- Pulmonary embolism

PSYCHOLOGICAL
- Suicide attempt
- Suicide ideation
- Agitation
- Anxiety
- Depression
- Hyperactivity
- Oppositionality
- Post-traumatic stress
- Anorgasmia
- Delayed orgasm
- Insomnia
- Libido decreased
- Other psychiatric disorders

RENAL/URINARY
- Incontinence
- Vesicoureteral reflux, acquired
- Acute kidney injury
- Chronic hematuria
- Chronic kidney disease
- Obstructive uropathy
- Urinary bladder dysfunction
- Urinary tract calculi

REPRODUCTIVE/GENITAL
- Dysfunctional uterine bleeding
- Dyspareunia
- Erectile dysfunction
- Genitourinary adhesions
- Primary ovarian insufficiency
- Prostatic hypertrophy, benign
- Retrograde ejaculation
- Vaginal fistula
- Abnormal sperm concentration
- Cervical dysplasia
- Endometriosis
- Hypogonadism, central
- Leydig cell insufficiency
- Polycystic ovarian syndrome
- Precocious puberty
- Vaginal stenosis

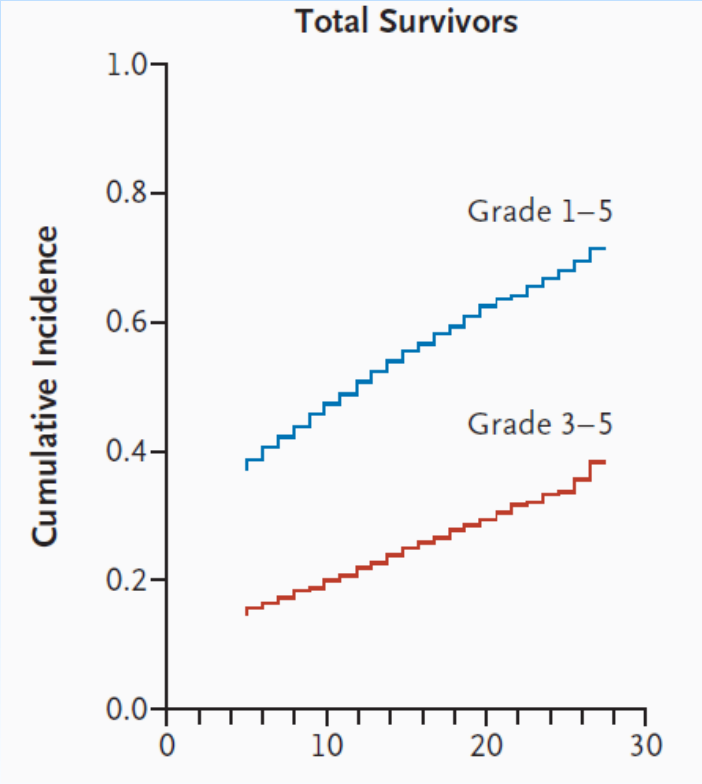
* chronic/recurrent, BMD=bone mineral density; COPD=chronic obstructive pulmonary disease; GH=growth hormone; HIV=human immunodeficiency virus; LV=left ventricular; RV=right ventricular; SCFE=slipped capital femoral epiphysis; SIADH = syndrome of inappropriate antidiuretic hormone; TMJ=temporomandibular joint

Cancer survivors: mortalità e morbidità

The NEW ENGLAND JOURNAL of MEDICINE

Chronic Health Conditions in Adult Survivors of Childhood Cancer

Kevin C. Oeffinger, M.D., Ann C. Mertens, Ph.D., Charles A. Sklar, M.D.,



- 10,397 ***childhood cancer survivors*** con età media di **26.6 anni** (diagnosi 1970-1986)

- Popolazione di controllo di fratelli sani

- **62.3% dei CCS aveva almeno una malattia cronica e il 27.5% una malattia grave o potenzialmente mortale**

- Rispetto ai controlli**, il rischio di avere una malattia cronica è risultato 3.3 volte** (95% CI, 3.0 to 3.5); 8.2 volte quello di malattie gravi o potenzialmente mortali

N Engl J Med 2006;355:1572-82.

VOLUME 28 · NUMBER 32 · NOVEMBER 10 2010

JOURNAL OF CLINICAL ONCOLOGY

REVIEW ARTICLE

Transition of Care for Young Adult Survivors of Childhood and Adolescent Cancer: Rationale and Approaches

David R. Freyer

needs become clear. It is now widely acknowledged

Conclusion

Systematic health care transition constitutes the standard of care for young adult survivors of childhood cancer. In developing a transitional care program, it is necessary to consider the scope of services to be provided, available resources, and other local exigencies that help determine the optimal model for use. Additional research is needed to improve health services delivery to this population. Effective advocacy is needed, particularly in the United States, to ensure the availability of uninterrupted health insurance coverage for survivorship services in young adulthood.

range across the span of life. When formalized, this process of moving the survivor from child-oriented to adult-focused providers is designated health care transition.

European Journal of Cancer 54 (2016) 64–68

Available online at www.sciencedirect.com

ScienceDirect

journal homepage: www.ejcancer.com

Original Research

Transition guidelines: An important step in the future care for childhood cancer survivors. A comprehensive definition as groundwork

R.L. Mulder [a], H.J.H. van der Pal [a,*], G.A. Levitt [b], R. Skinner [c,d], L.C.M. Kremer [a], M.C. Brown [c], E. Bárdi [e], R. Windsor [f], G. Michel [g,h], E. Frey [i]

Abstract Evidence-based clinical practice guidelines are essential to ensure that childhood cancer survivors at risk of chronic health conditions receive effective long-term follow-up care. However, adult survivors of childhood cancer are not always engaged in recommended health promotion and follow-up practices, as many centres do not have a formal transition programme that prepares survivors and their families for successful transfer from child-centred to adult-oriented healthcare. The need for a specific pan-European guideline for the transition of care for childhood cancer survivors has been recognised. The first step is to define the concept of transition of care for survivors of childhood cancer based on existing evidence.

AZIENDA OSPEDALIERO-UNIVERSITARIA
Città della Salute e della Scienza di Torino

S.S.D. Unità di Transizione per Neoplasie Curate in Età Pediatrica

Requisiti per essere avviati alla “transizione”:

- Pregressa neoplasia dell’età evolutiva
- Età > 18 anni
- Off-therapy > 5 anni

(non necessaria evidenza di “late effects”)

Valutazione psicologica

E’ comunque l’oncologo pediatra a decidere quando il paziente è “pronto” per la *transition*

rete oncologica
PIEMONTE | VALLE D'AOSTA
si prende cura di te

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518 pazienti (M 288; F 230)

Età alla diagnosi:

10,7 ± 7.1 (media ± SD)

0,3 – 18,9 (range)

Età attuale:

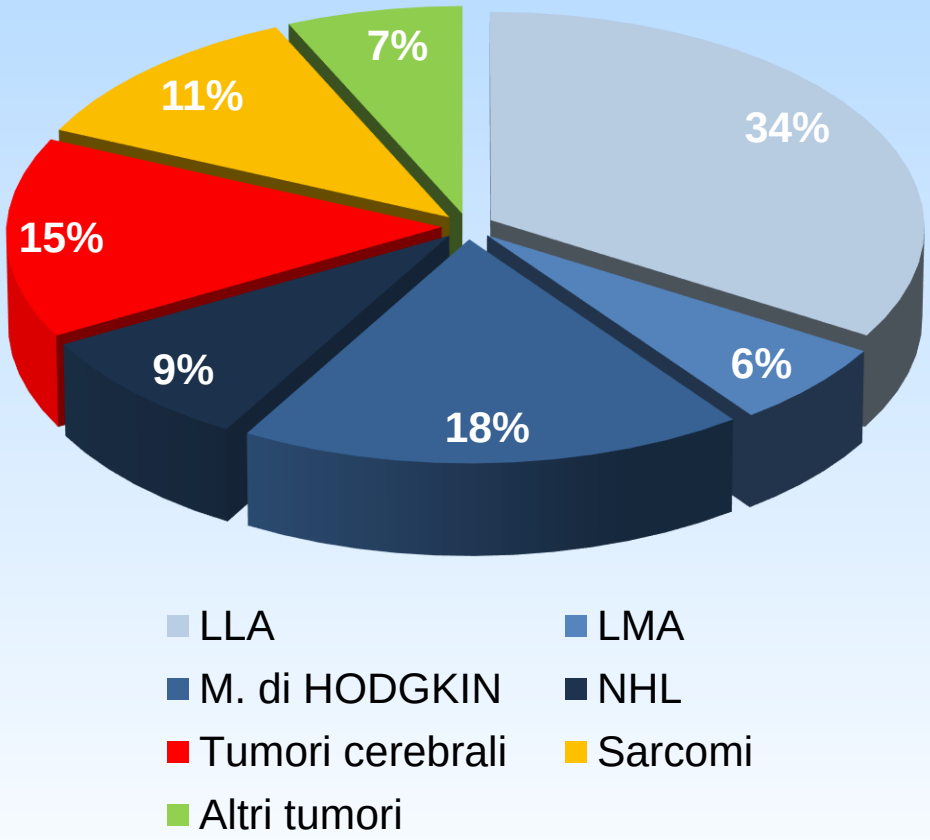
24,7 ± 7,6 (media ± SD)

18,1 – 52,3 (range)

Durata follow-up:

16,5 ± 9,6 (media ± SD)

5,1 – 48,0 (range)



AIOM

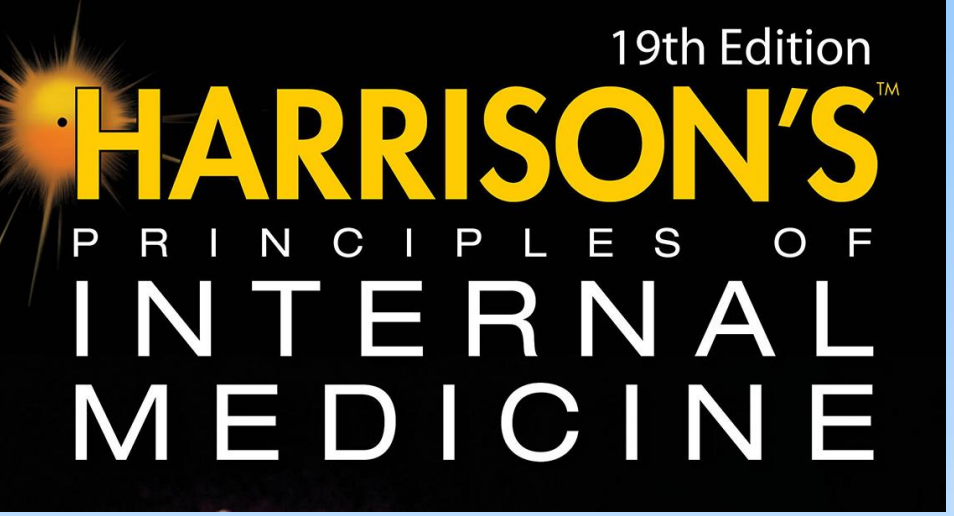
CONFERENZA DI CONSENSO

DALLA PRATICA DEL **FOLLOW UP** ALLA CULTURA DI **SURVIVORSHIP CARE**

Presidenti della conferenza: Carmine Pinto, Gianmauro Numico

ROMA • 10 -11 SETTEMBRE 2015

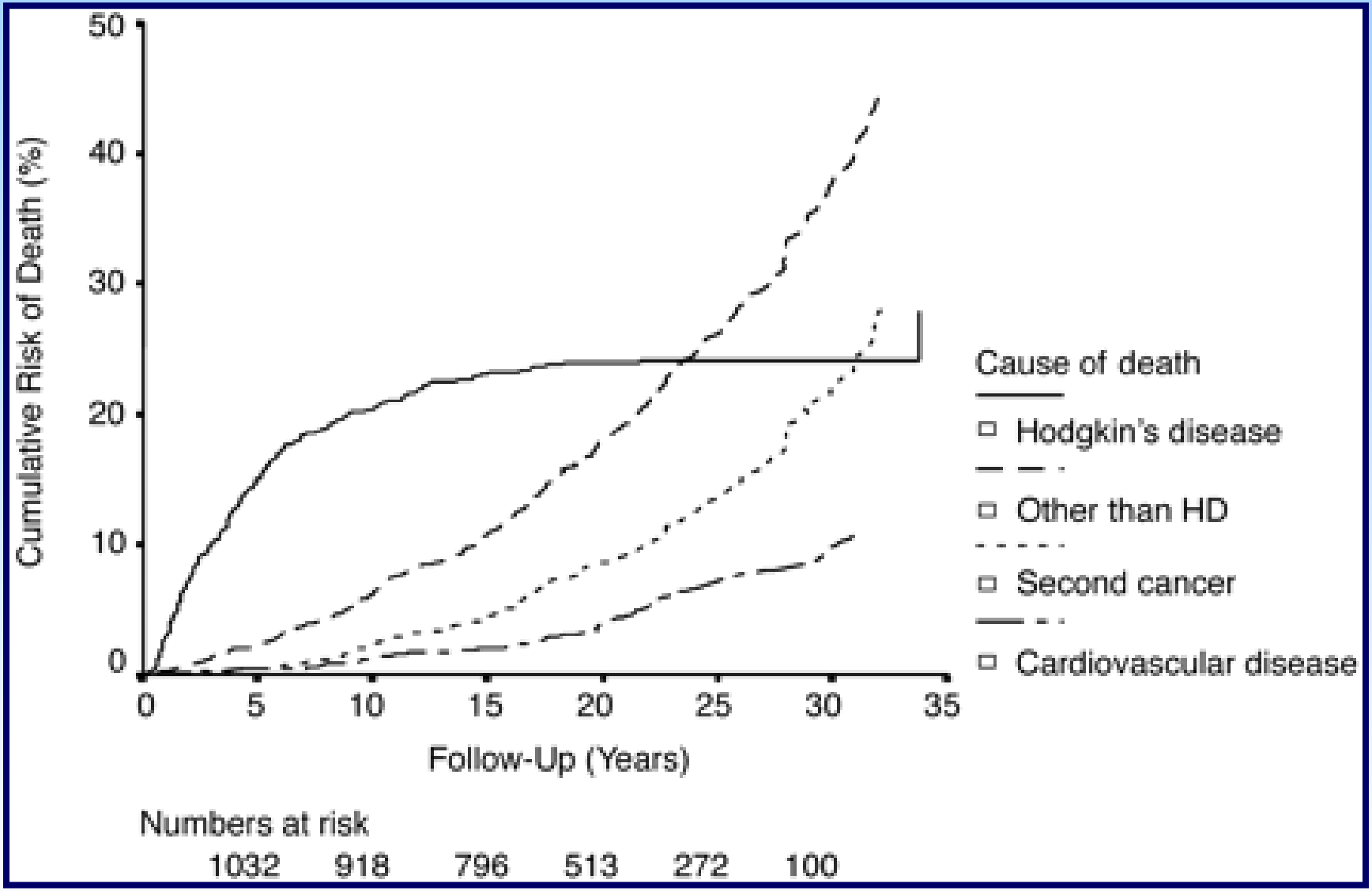
rete oncologica
PIEMONTE | VALLE D'AOSTA
si prende cura di te



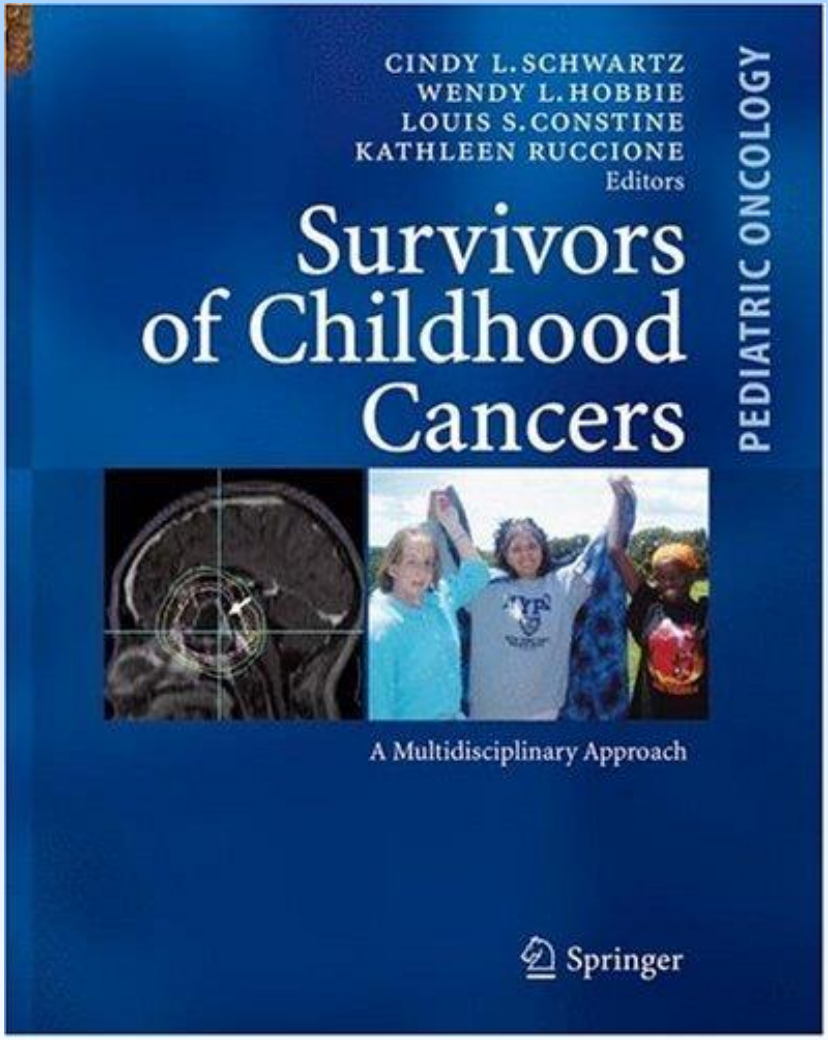
"Because of the very high cure rate in patients with Hodgkin's lymphoma, **long-term complications have become a major focus for clinical research**. In fact, in some series of patients with early-stage disease, **more patients died from late complications of therapy than from Hodgkin's lymphoma itself.** This is particularly true in patients with localized disease. The most serious late side effects include second malignancies and cardiac injury".

Il problema della tossicità tardiva.

(da Aleman et al. *JCO* 21, 3431, 2003)



Controllo delle tossicità tardive



Bisogno sanitario nuovo ed emergente, che pone ai clinici problematiche inedite delle quali sempre più i Servizi Sanitari dovranno occuparsi e che per la sua natura e la sua complessità necessita di un approccio multidisciplinare.

Adattamento del modello al **paziente curato in età adulta**

Prevalenza: *CCS* = 0.15% → 40.000

***ACS* = 2.7% → 1.500.000**

(Dati AIRTUM 2014)

✓Per **quali adult cancer survivors** può essere utile il LTFU?

✓**Chi** deve fare il LTFU?

ASPETTATIVA DI VITA

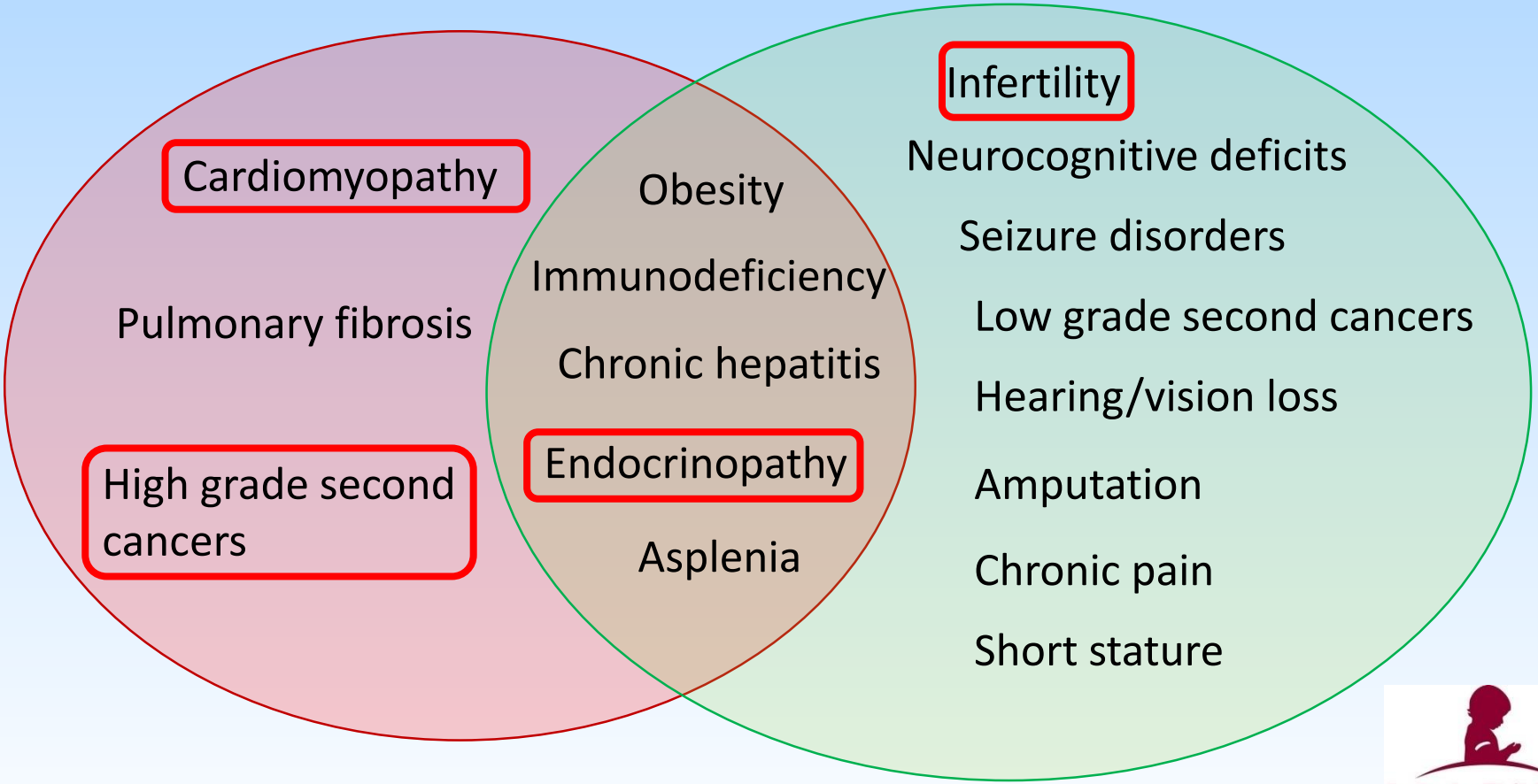
FORMAZIONE

Collaborazioni SSD Unità di Transizione con altre Strutture in Città della Salute

- **SSCC Ematologia**
- **SSD Trapianto allogenico di midollo**
- **Breast Unit**

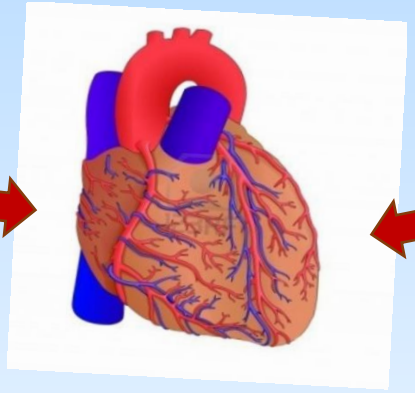
Spectrum of Physical Late Effects

Life Threatening → Life Altering



Rischio cardiovascolare in cancer survivors

Radiotherapy

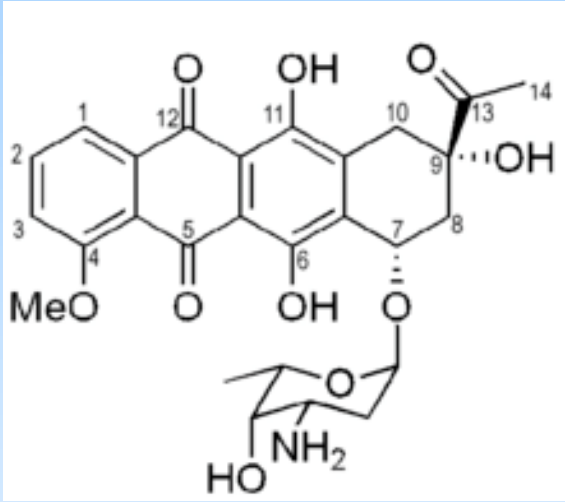


Anthracyclines

Cardiotossicità da antracicline

- Antracicline

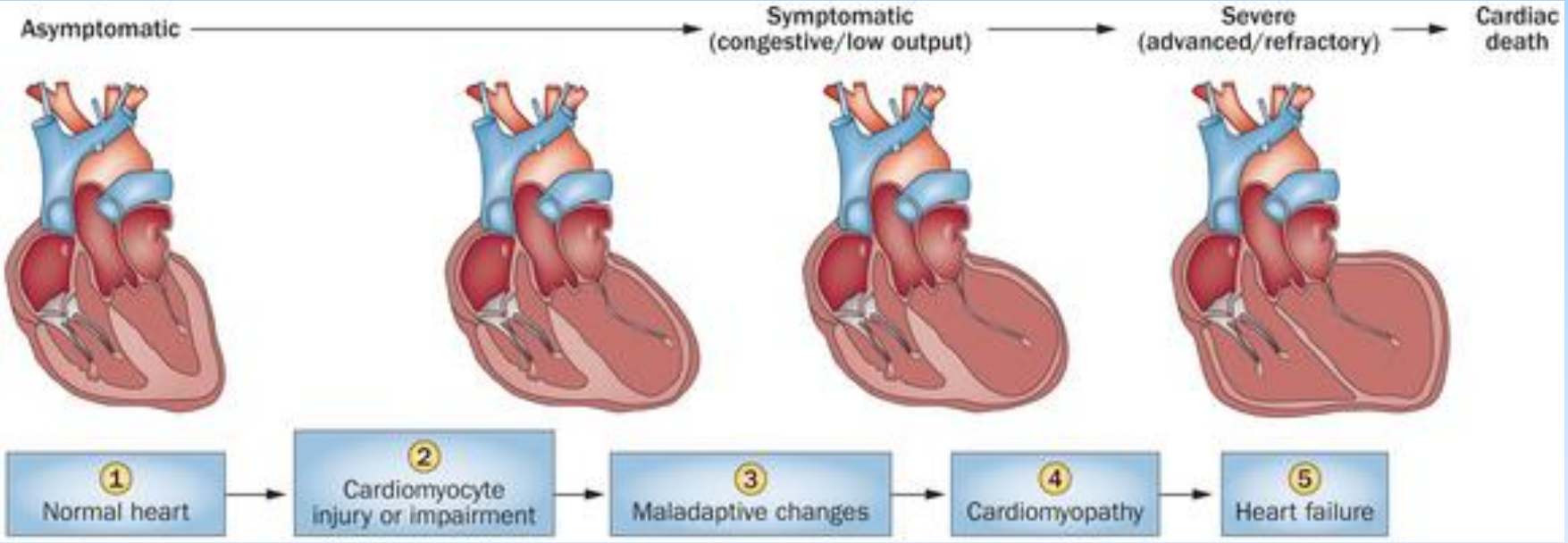
- 5-FU, capecitabina
- Taxani
- Alchilanti
- TK-inibitori
- Ab monoclonali (trastuzumab)



"Doxorubicin administration was associated with a doserelated ***increase in the degree of myocyte damage****, and 27 of 29 patients biopsied at doses ≥ 240 mg/m² had doxorubicin-associated degenerative changes identified on biopsy. "*

Ann Intern Med. **1978**;88(2):168-175.

Anthracycline: pathophysiology



Non-ischemic cellular degeneration → ***Diastolic dysfunction and later systolic dysfunction*** → ***Symptomatic cardiac dysfuncion***

Lipshulz SE et al, Nature Reviews Clinical Oncology 2013

Cardiotossicità da RT

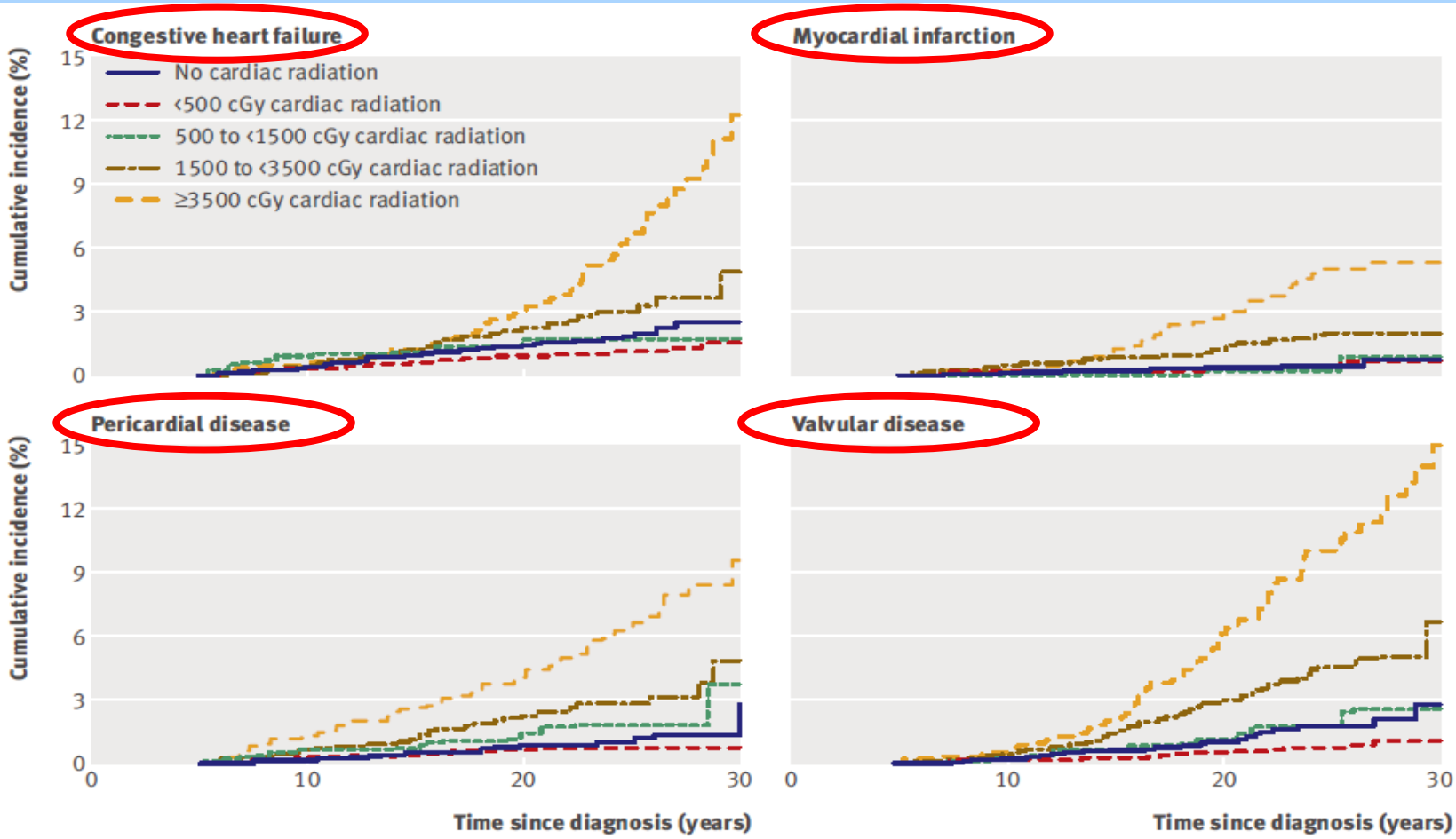


Fig 4 | Cumulative incidence of cardiac disorders among childhood cancer survivors by average cardiac radiation dose

Mulrooney et al, BMJ 2009

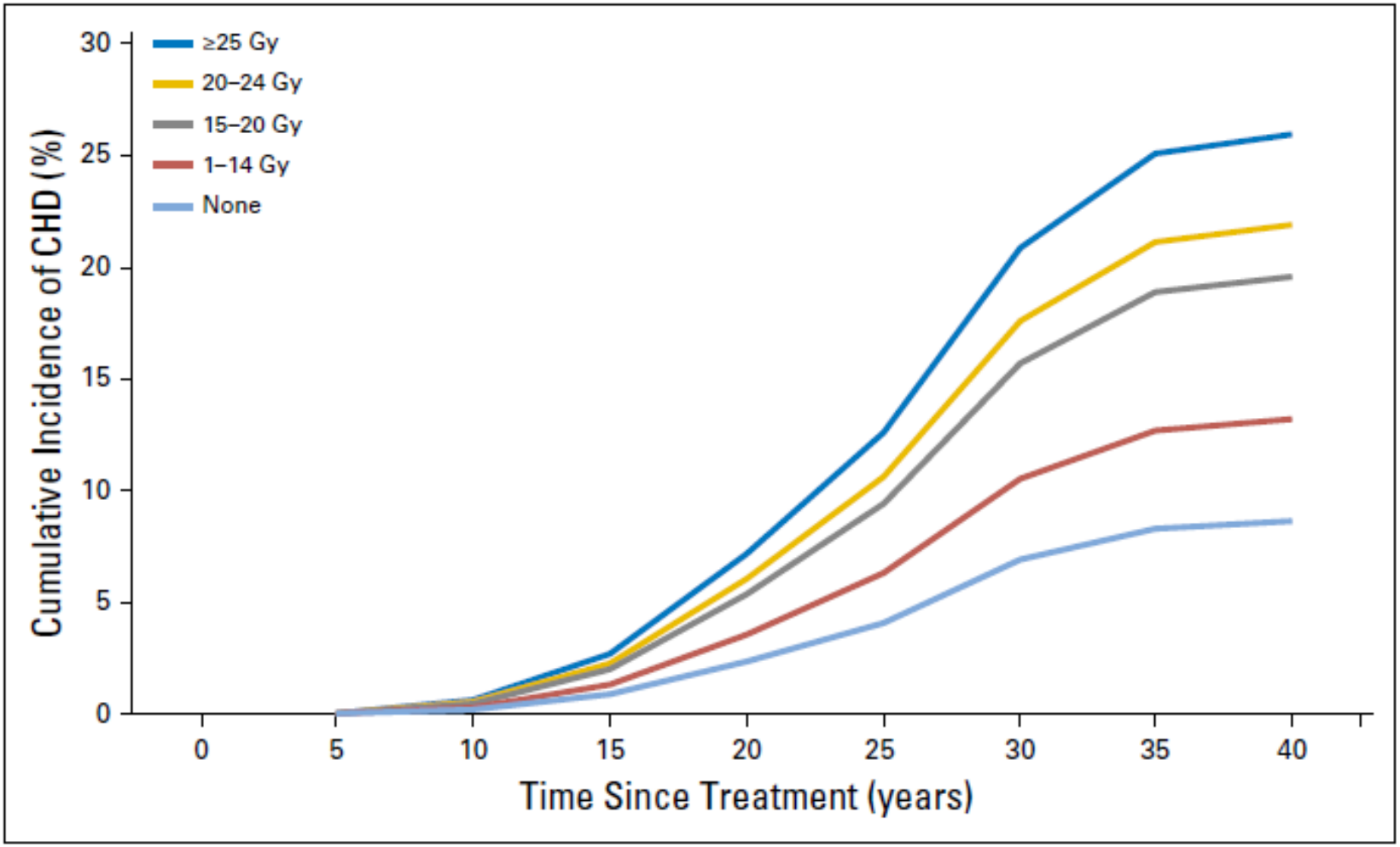
VOLUME 34 · NUMBER 3 · JANUARY 20, 2016

JOURNAL OF CLINICAL ONCOLOGY

ORIGINAL REPORT

Radiation Dose-Response Relationship for Risk of Coronary Heart Disease in Survivors of Hodgkin Lymphoma

Frederika A. van Nimwegen, Michael Schaapveld, David J. Cutter, Cècile P.M. Janus, Augustinus D.G. Krol, Michael Hauptmann, Karen Kooijman, Judith Roesink, Richard van der Maazen, Sarah C. Darby, Berthe M.P. Aleman, and Flora E. van Leeuwen



RT e fattori di rischio CV «classici»

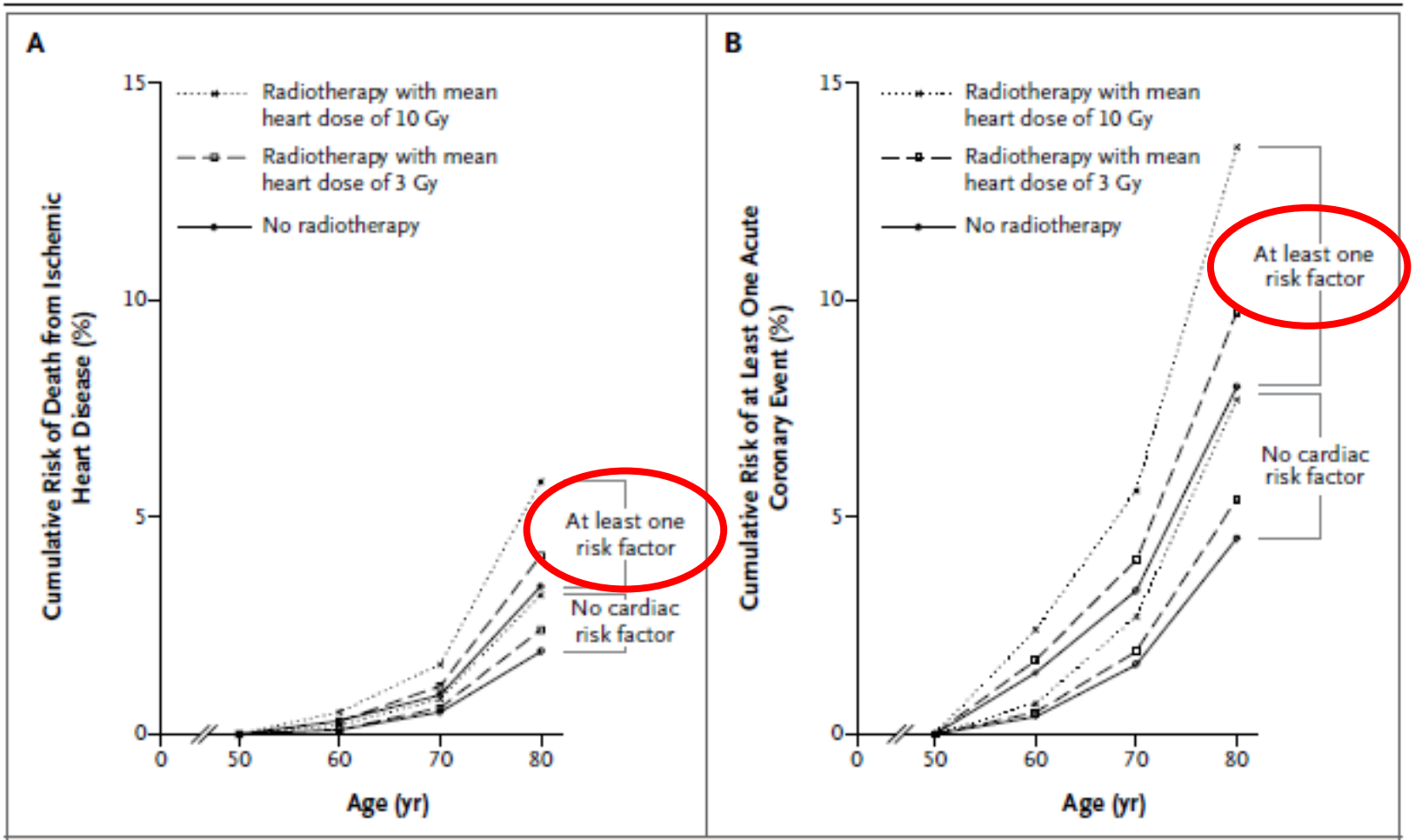


Figure 2. Cumulative Risks of Death from Ischemic Heart Disease and of at Least One Acute Coronary Event.

Darby et al, NEJM 2013

Rischio cardiaco o cardiometabolico?

Reduced physical activity (bone diseases, fatigue, etc)

Obesity

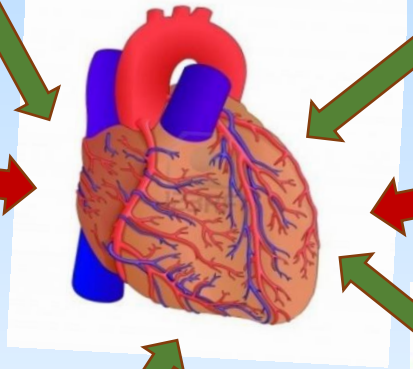
Hypertension

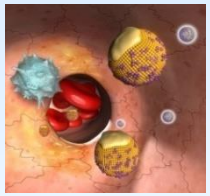
Platinum-based CT
Abdominal RT

Smoke

Anthracyclines

Radiotherapy





GHD
Hypogonadism
(Hypothyroidism)

HSCT

Abdominal RT
HSCT
Steroids

Diabetes

Dyslipidemia

Platinum-based CT

SECONDI TUMORI

The NEW ENGLAND JOURNAL of MEDICINE

ESTABLISHED IN 1812 DECEMBER 24, 2015 VOL. 373 NO. 26

Second Cancer Risk Up to 40 Years after Treatment for Hodgkin's Lymphoma

Michael Schaapveld, Ph.D., Berthe M.P. Aleman, M.D., Ph.D., Anna M. van Eggermond, M.Sc., Cécile P.M. Janus, M.D., Augustinus D.G. Krol, M.D., Ph.D., Richard W.M. van der Maazen, M.D., Ph.D., Judith Roesink, M.D., Ph.D., John M.M. Raemaekers, M.D., Ph.D., Jan Paul de Boer, M.D., Ph.D., Josée M. Zijlstra, M.D., Ph.D., Gustaaf W. van Imhoff, M.D., Ph.D., Eefke J. Petersen, M.D., Ph.D., Philip M.P. Poortmans, M.D., Ph.D., Max Beijert, M.D., Marnix L. Lybeert, M.D., Ina Mulder, Ph.D., Otto Visser, Ph.D., Marieke W.J. Louwman, Ph.D., Inge M. Krul, M.Sc., Pieternella J. Lugtenburg, M.D., Ph.D., and Flora E. van Leeuwen, Ph.D.

CONCLUSIONS

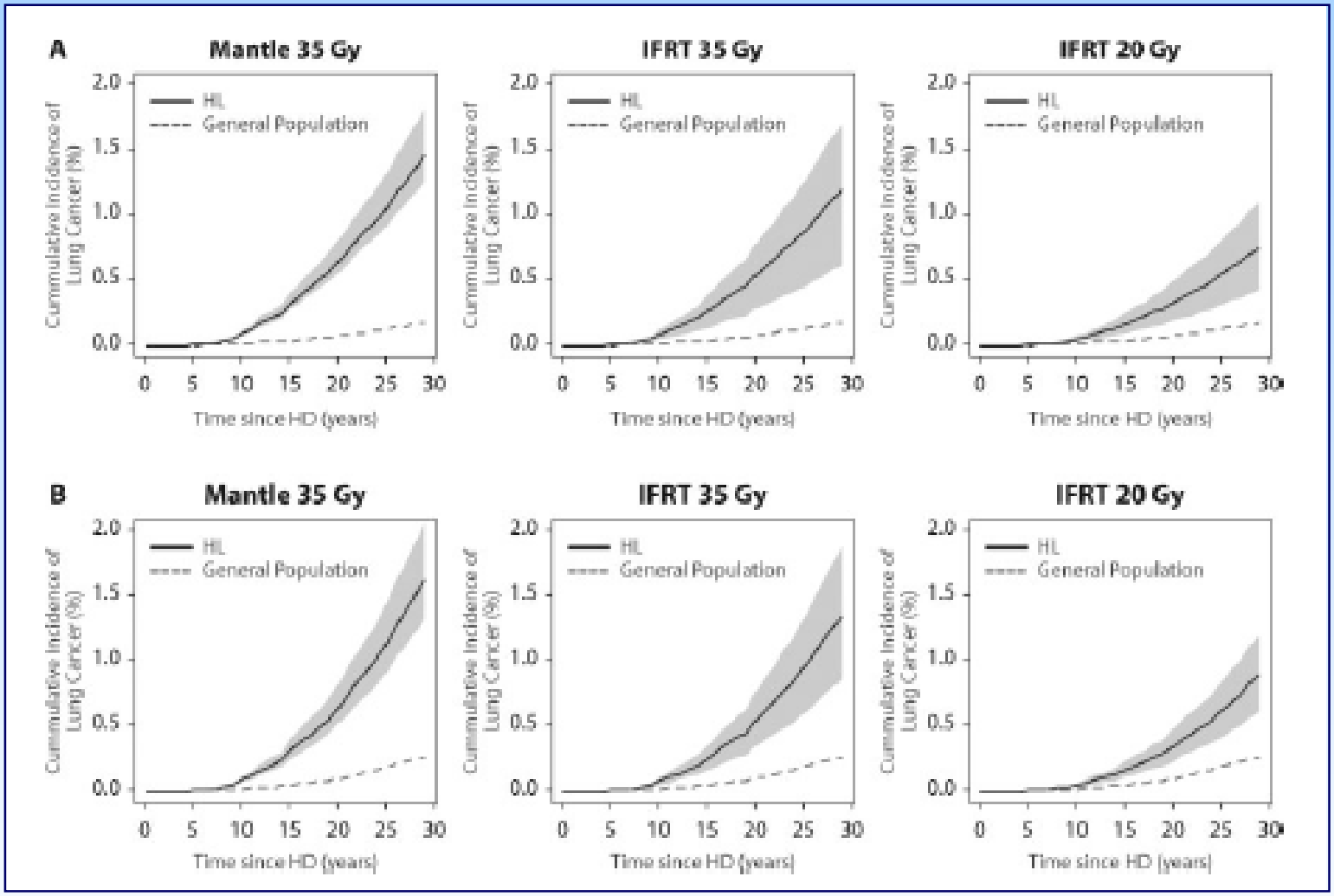
The risk of second solid cancers did not appear to be lower among patients treated in the most recent calendar period studied (1989–2000) than among those treated in earlier periods. The awareness of an increased risk of second cancer remains crucial for survivors of Hodgkin's lymphoma. (Funded by the Dutch Cancer Society.)

Stima del rischio di tumore polmonare.

(da Hodgson et al. Cancer 110, 2576, 2007)

Femmine
Non fumatrici
40 anni

Maschi
Non fumatori
40 anni

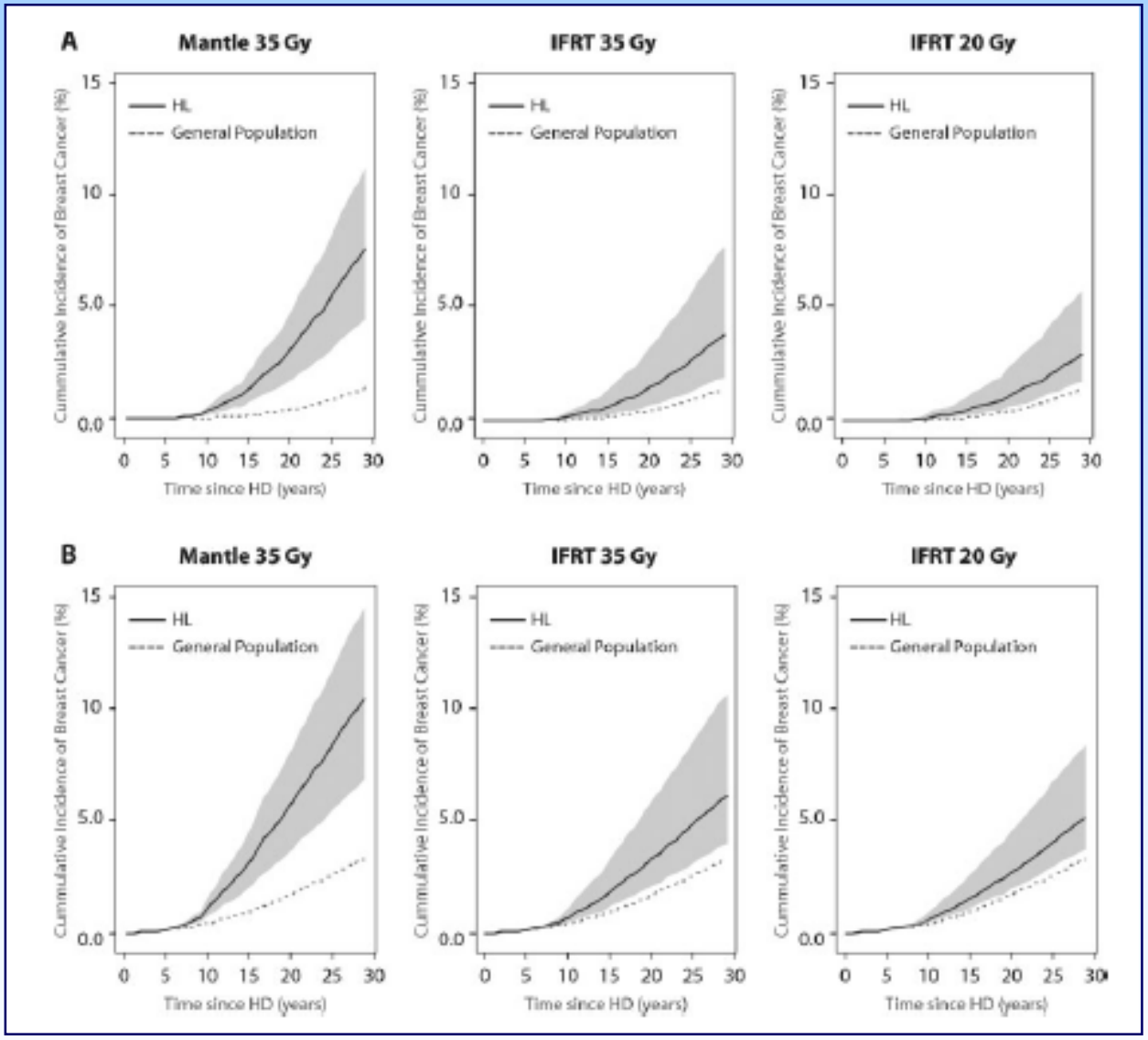


Stima del rischio di tumore mammario.

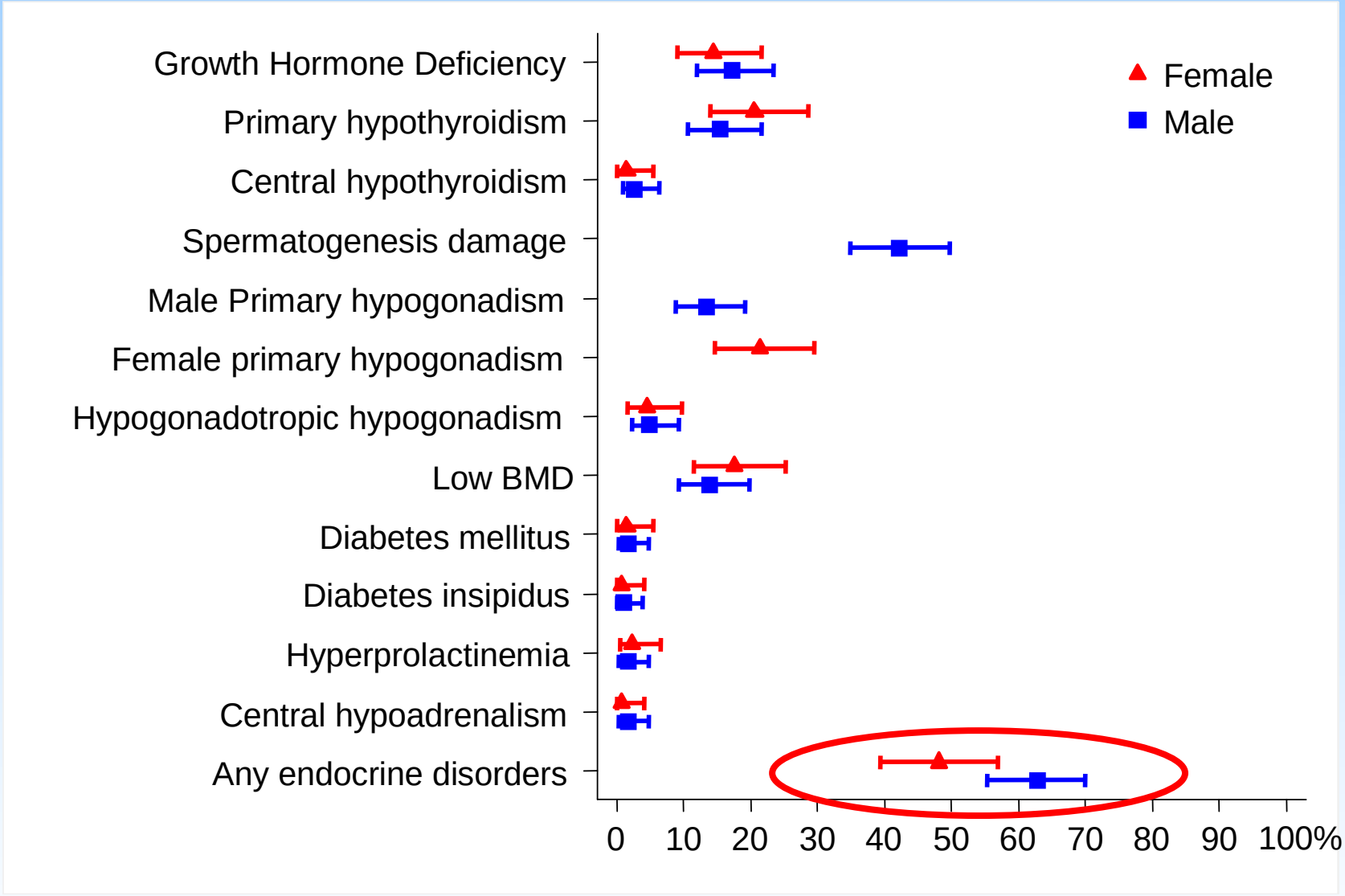
(da Hodgson et al. Cancer 110, 2576, 2007)

20 anni

30 anni

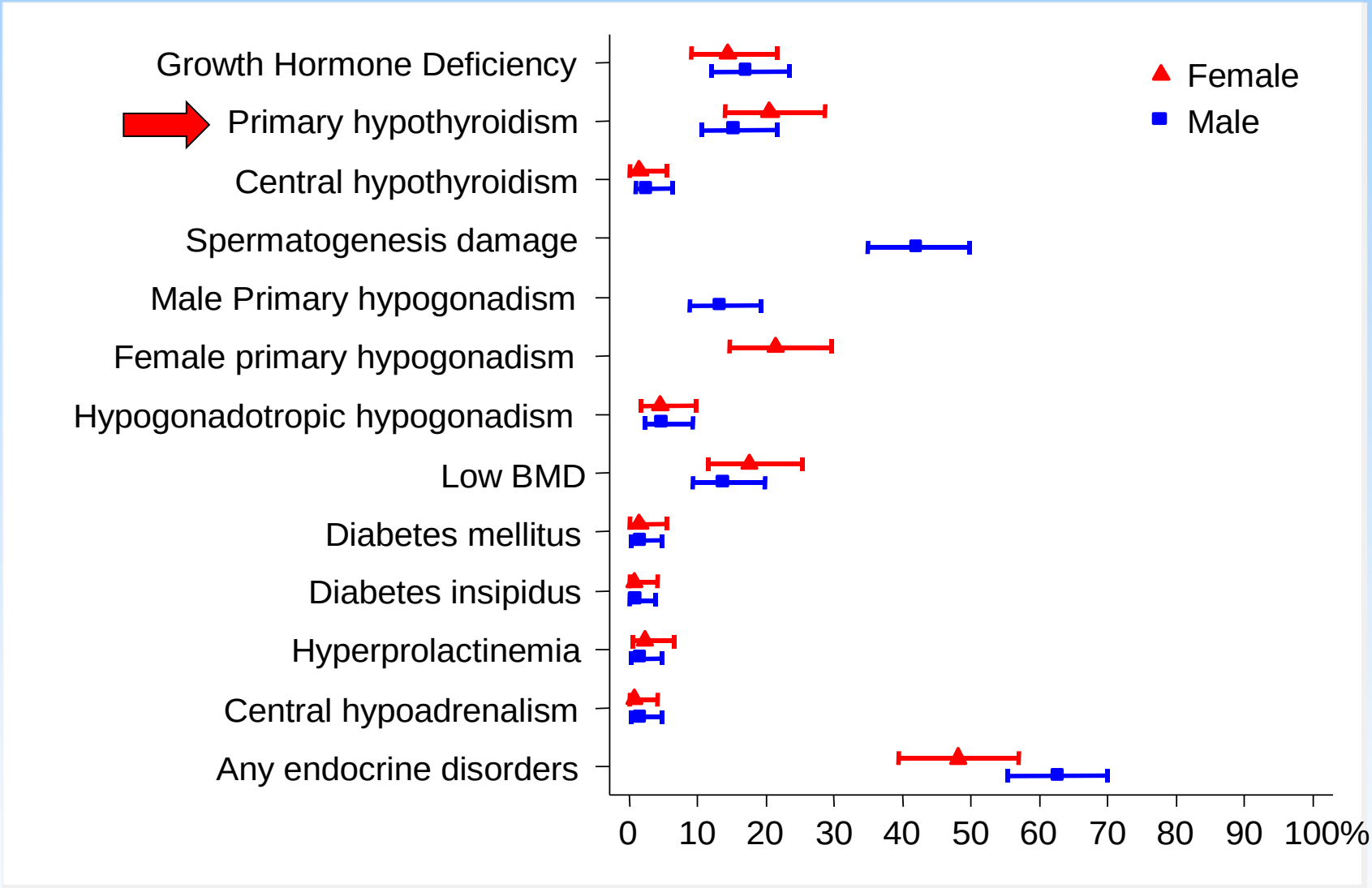


ENDOCRINOPATIE IN CHILDHOOD CANCER SURVIVORS



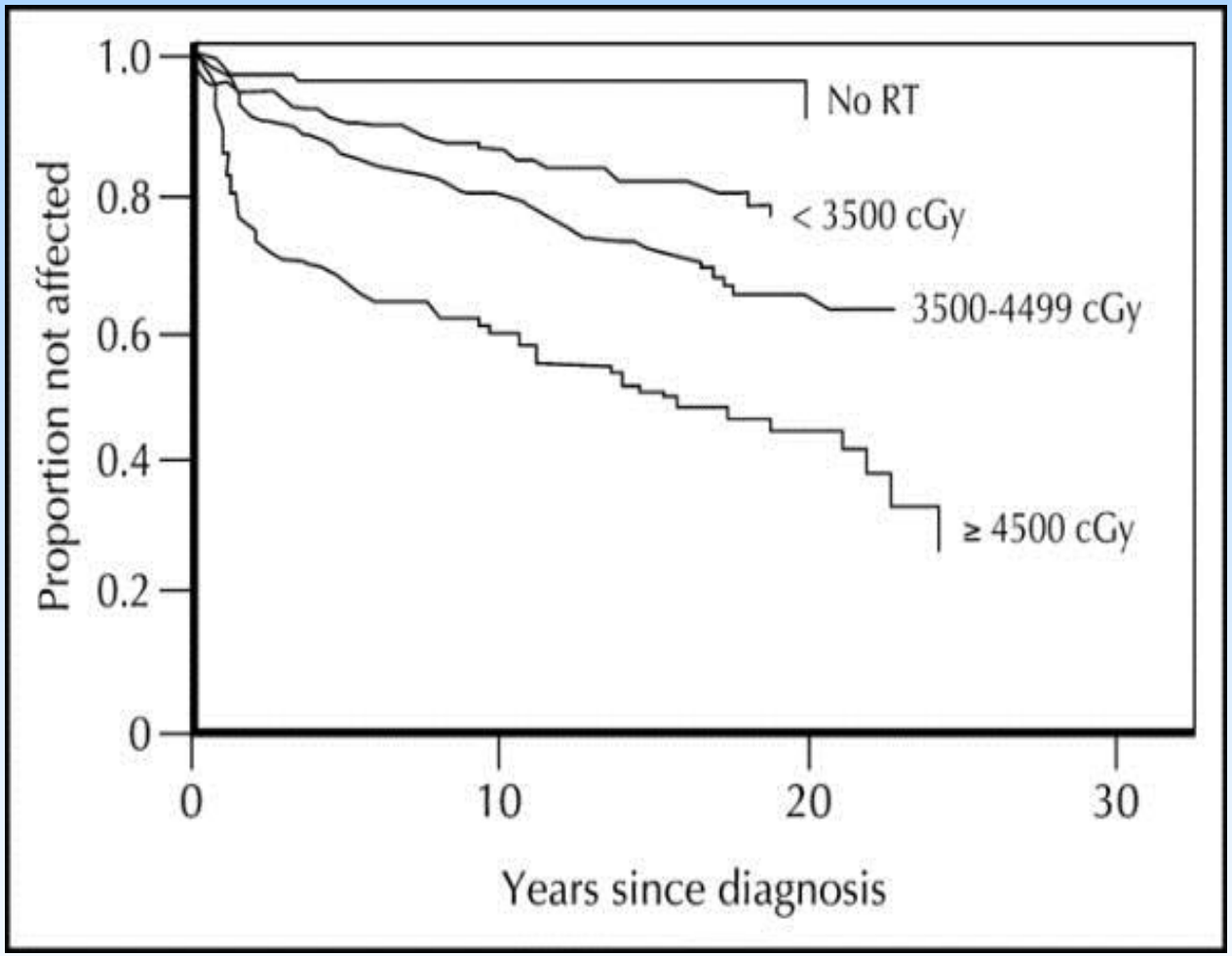
Brignardello et al., Eur J Endocrinol 2013

Ipotiroidismo primitivo in CCS



Brignardello et al., Eur J Endocrinol 2013

Ipotiroidismo primitivo / RT



Diller et al., JCO 2009

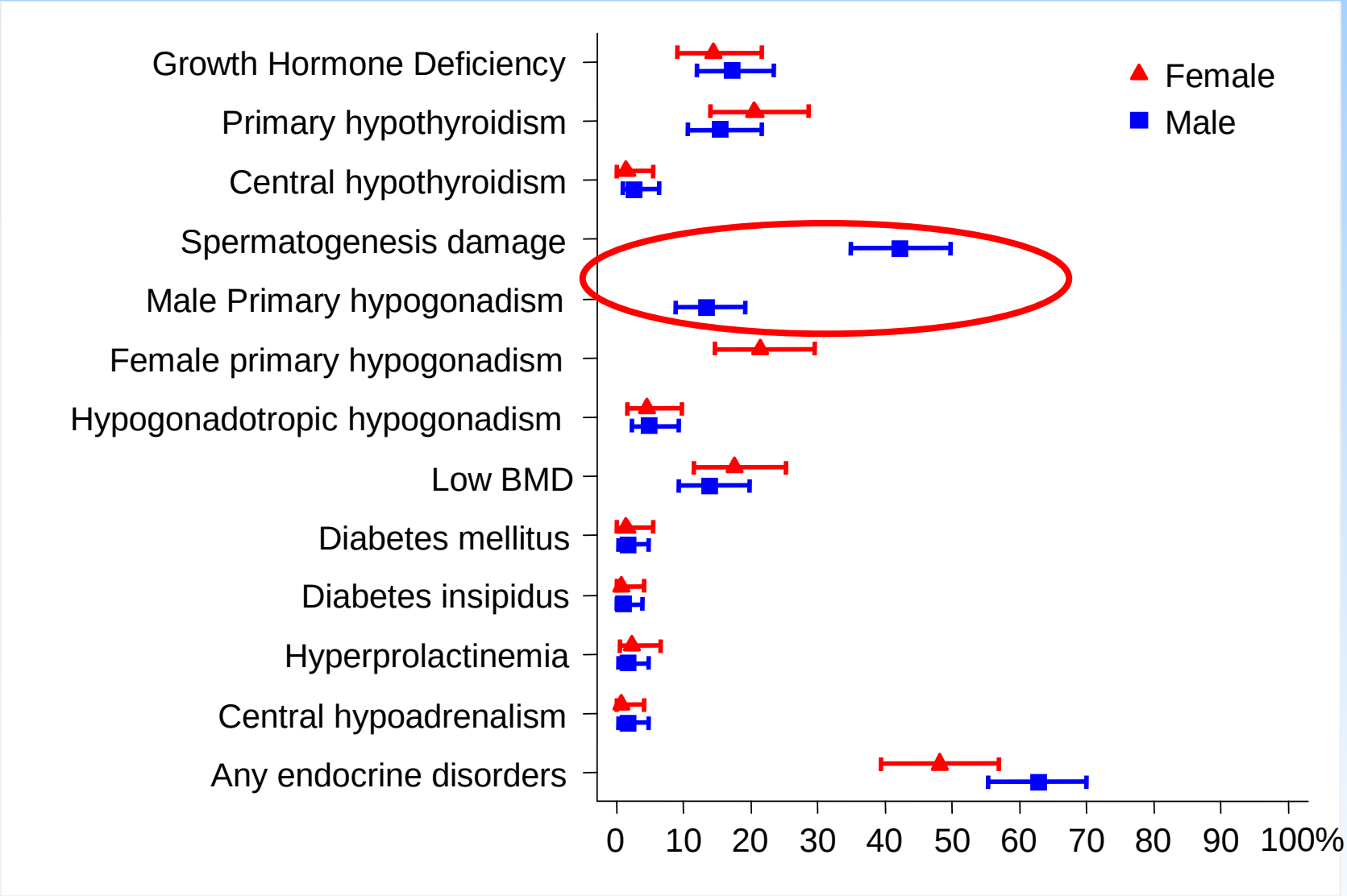
Disfunzione testicolare in *CCS*

Epitelio germinale molto più sensibile della cellula di Leydig agli effetti tossici di CT e RT

Deficit androgenico molto più raro

del deficit spermatogenetico

ENDOCRINOPATIE IN CHILDHOOD CANCER SURVIVORS



Brignardello et al., Eur J Endocrinol 2013

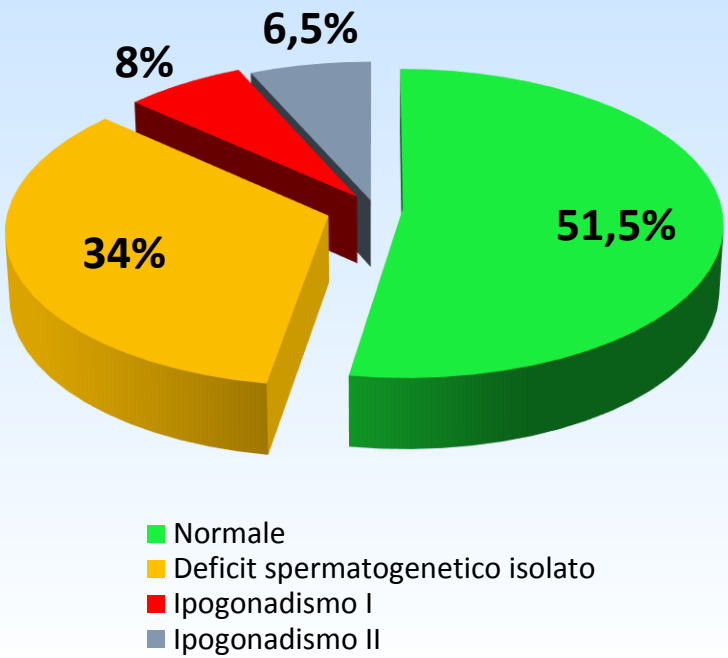
Disfunzione testicolare in *CCS*

Gonadal status in long-term male survivors of childhood cancer

E. Brignardello[1] · F. Felicetti[1] · A. Castiglione[2] · A. Nervo[1] · E. Biasin[3] · G. Ciccone[2] · F. Fagioli[3] · A. Corrias[4]

J Cancer Res Clin Oncol 2016

199 male CCS, whit a median follow-up of 14.01 years.



The **prevalence** of gonadal dysfunction **was similar in the three considered periods** of pediatric cancer diagnosis (1985–1989, 1990–1999, >2000).

The adjusted risk of gonadal dysfunction was higher in patients treated with **radiotherapy** (OR = 8.72; 95 % CI 3.94–19.30) and in those exposed to both **alkylating and platinum-derived agents** (OR = 9.22; 95 % CI 2.17–39.23).

Sarcomas were the cancer diagnosis associated with the higher risk (OR = 3.69; 95 % CI 1.11–12.22).

An **extremely high rate** of gonadal dysfunction was detected **in patients who underwent HSCT and TBI**

Effetti della CT e della RT sulla funzione ovarica

- Sia la chemioterapia sia la radioterapia distruggono i follicoli ovarici e ne accelerano il naturale declino.
- Il rischio di insufficienza ovarica acuta è direttamente correlato con l'età (minore riserva follicolare)
- Aumentato rischio di *Premature Ovarian Failure* (POF)
  - Ridotta finestra di fertilità

Gestione dei *late effects*

CONSAPEVOLEZZA
(del paziente e del medico)

[redacted] [redacted] Ependimoma 18/05/1985

ORGANO	TEST	anno						
TSA (RT)	Ecodoppler							
→ CUORE(RT)*	Ecocardiogramma	ok 2013						
RENE(cbdca)	funz. Renale	ok 2012	ok 2015	ok 2016				
APP. URINARIO(cpm,RT)	Es. urine	ok 2010	ok 2014	ok 2016				
OSSO(RT, mtx)	MOC	ok us 2004						
FEGATO (mtx)	transaminasi	ok 2012	ok 2015					
	ETG							
SMN(RT)								
CUTE/TESS. MOLLI(RT)	Vis. Dermatologica	ok 2015						
GASTRO-INTEST(RT)	ETG	ok 2008						
TIROIDE(RT)	funzionalità	ok 2012	ok 2015	ok 2016				
	ETG	nodo 2011	nodo 2015	nodo 2016				
	FNAB							
DISLIPIDEMIA(RT, cbdca)	assetto lipidico	ok 2012	ok 2014	ok 2016				
	glicemia							
GONADI(cbdca,RT)	es. ormonali	ok 2009	ok 2014	ok 2016				
	Liquido seminale							
ASSE IPOTALAMO-IPOFISI(RT)	GH							
	ACTH/Cortisolo	ok 2009	ok 2014					
	PRL	ok 2009	ok 2014					
	Diabete insipido	no 2013						
SNC(RT)	EO neurologico	ok 2011	ok 2012	ok 2014	stabile 2016			
	RMN	meningioma2012	ok 2014	ok 2015				
	Funz. Neurocognitiva	ok 2011	ok 2015					
OCCHIO(RT)	Visita oculistica							
ORECCHIO(cddp)	Visita ORL							

* 30.6 Gy spinale

Mercaptopurine (6-MP) | Section 21

*Use formulas below to convert to doxorubicin/daunorubicin isotoxic equivalents prior to calculating total cumulative anthracycline dose:
Epirubicin - multiply total dose x 0.67 **Idarubicin** - multiply total dose x 5 **Mitoxantrone** - multiply total dose x 3.5
Note: There is a paucity of literature to support isotoxic dose conversion; however, the above conversion factors may be used for convenience in order to gauge screening frequency. Clinical judgment should ultimately be used to determine indicated screening for individual patients.

Il follow-up a lungo termine

- Il modello organizzativo presa in carico **“globale e continuativa”** del paziente (secondo il modello della Rete Oncologica Piemonte e Valle d’Aosta).

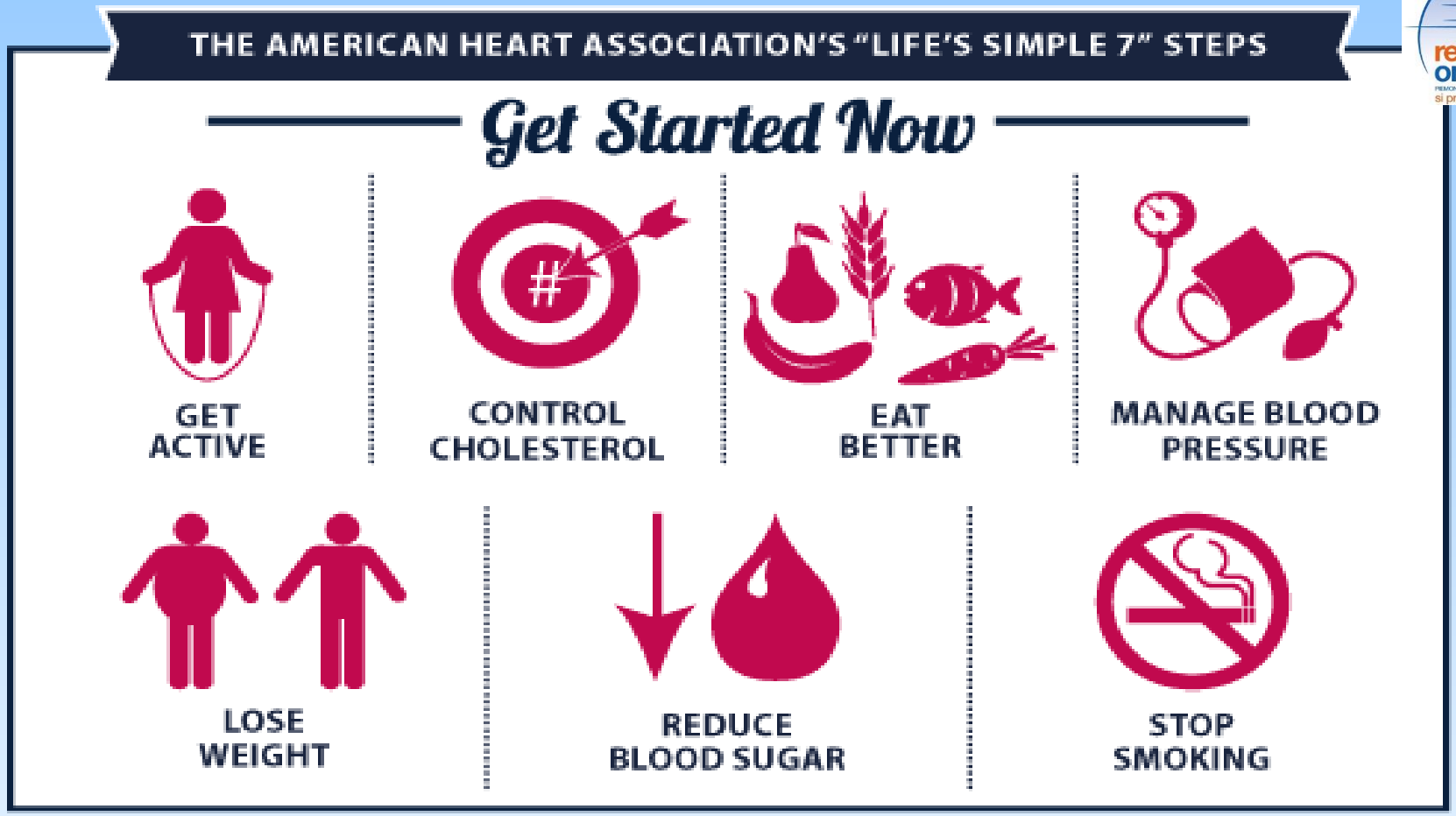
- **Personalizzazione del follow-up** (esami strumentali e di laboratorio, cadenza delle visite di controllo) **in funzione della stratificazione del rischio** (diagnosi oncologica e pregressi trattamenti antitumorali).

Gestione dei *late effects*

CONSAPEVOLEZZA
(del paziente e del medico)

CONTROLLI CLINICI PERIODICI
(anamnesi, esame obiettivo, …)

ESAMI STRUMENTALI E LABORATORISTICI



International Guideline Harmonization Group for Late Effects of Childhood Cancer

Generally, health-care providers **are asked to educate and counsel all survivors** of childhood cancer about the importance of maintaining **a heart-healthy lifestyle** [...].

Armenian S et al, Lancet Oncol 2015

Original Article

Lifestyle and Metabolic Syndrome in Adult Survivors of Childhood Cancer

A Report From the St. Jude Lifetime Cohort Study

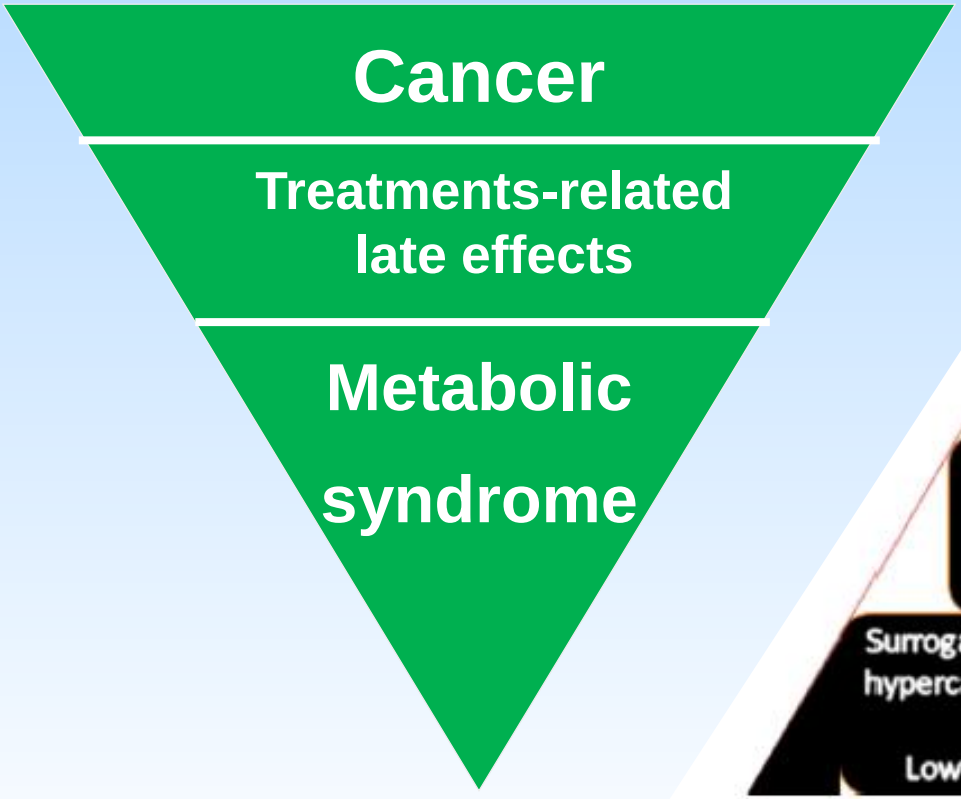
Webb A. Smith, MS[1]; Chenghong Li, MS[2]; Kerri A. Nottage, MD[3]; Daniel A. Mulrooney, MD[1,4]; Gregory T. Armstrong, MD[1]; Jennifer Q. Lanctot, PhD[1]; Wassim Chemaitilly, MD[5]; Joseph H. Laver, MD[4]; Deo Kumar Srivastava, PhD[2]; Leslie L. Robison, PhD[1]; Melissa M. Hudson, MD[1,4]; and Kirsten K. Ness, PhD[1]

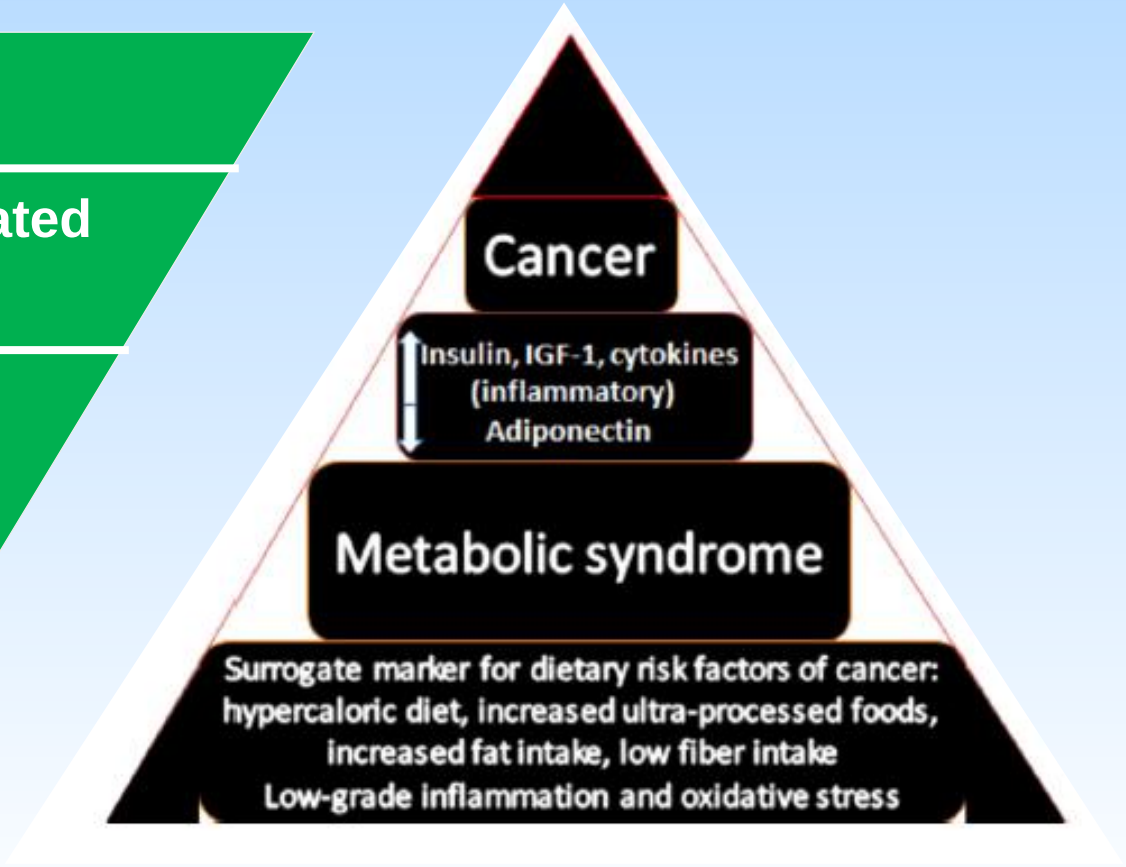
BACKGROUND: Childhood cancer survivors (CCS) are at an increased risk of developing metabolic syndrome (MetSyn), which may be reduced with lifestyle modifications. The purpose of this investigation was to characterize lifestyle habits and associations with MetSyn among CCS. **METHODS:** CCS who were ≥10 years from diagnosis, aged >18 years, and participating in the St. Jude Lifetime Cohort Study completed medical and laboratory tests and a food frequency questionnaire. The Third Report of the National Cholesterol Education Program Adult Treatment Panel criteria were used to classify participants with MetSyn. Anthropometric, food frequency questionnaire, and self-reported physical activity data were used to characterize lifestyle habits according to World Cancer Research Fund/American Institute for Cancer Research (WCRF/AICR) recommendations. Those who met ≥4 of 7 recommendations were classified as having followed guidelines. Sex-stratified log-binomial regression models were used to evaluate associations between dietary/lifestyle habits and MetSyn, adjusted for age, age at cancer diagnosis, receipt of cranial radiotherapy, education, and household income. **RESULTS:** Among 1598 CCS (49.2% of whom were male, with a median age of 32.7 years [range, 18.9 years-60.0 years]), 31.8% met criteria for MetSyn and 27.0% followed WCRF/AICR guidelines. Females who did not follow WCRF/AICR guidelines were 2.4 times (95% confidence interval, 1.7-3.3) and males were 2.2 times (95% confidence interval, 1.6-3.0) more likely to have MetSyn than those who followed WCRF/AICR guidelines. **CONCLUSIONS:** Adherence to a heart-healthy lifestyle is associated with a lower risk of MetSyn among CCS. There is a need to determine whether lifestyle interventions prevent or remediate MetSyn in CCS. *Cancer* 2014;120:2742-50. © *2014 American Cancer Society.*

KEYWORDS: childhood cancer survivor, metabolic syndrome, dietary intake, healthy lifestyle.

“Common soil hypothesis”

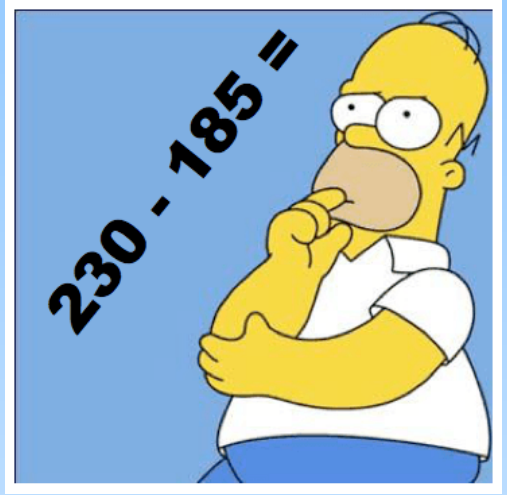
Metabolic syndrome and cancer: which direction?



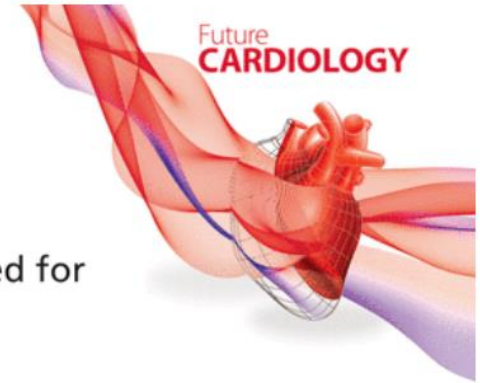


Esposito K et al, Endocrine 2013

Outstanding problems…



- Nota 13…..



Editorial

Statins and cancer survivors: the need for structured guidelines

Zakaria Almuwaqqat[1,2], Olivia Hung[3] & Susmita Parashar*[,3]
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"The discussion of CVD risk prevention should be integrated into the discussion of curative treatments among cancer survivors and oncology populations in general."

First draft submitted: 5 September 2017; Accepted for publication: 17 October 2017; Published online: 23 November 2017

Keywords: atherosclerosis • atherosclerotic cardiovascular disease • cancer survivors • guidelines • statins

The population of children and adult cancer survivors in the USA is estimated to grow to more than 19 million in 2024 according to the American Cancer Society [1,2]. This rapidly growing population has been exposed to various diagnostic and therapeutic modalities that may impact cardiovascular health [3]. In addition, cancer survivors have a higher prevalence of traditional cardiovascular disease (CVD) risk factors compared with age-matched populations [4]. Moreover, there is evidence that the 10-year predicted risk of developing a myocardial infarction or stroke is at least comparable to breast cancer recurrence risk among breast cancer survivors [5]. Thus, pursuing CVD risk prevention in survivorship care through appropriate and structured guidelines is of utmost importance. However, despite having a higher prevalence of CVD risk factors, a significant proportion of cancer survivors do

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History

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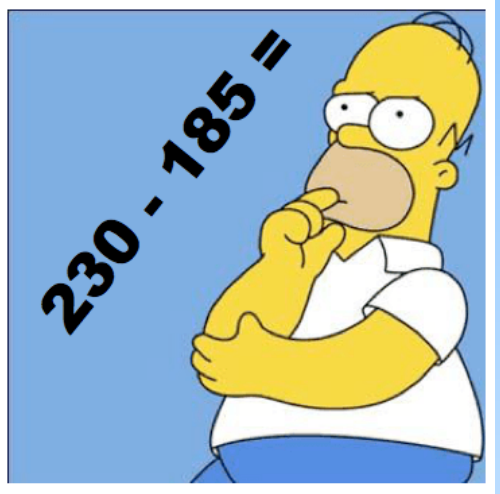
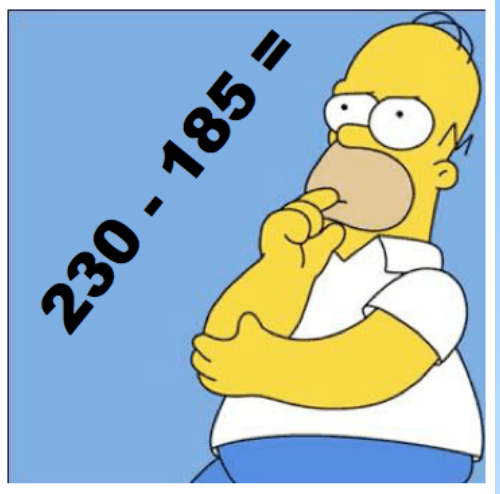
Outstanding problems…



- Esenzione specifica per i cancer survivors
  - (come la 052 per i pazienti sottoposti a TMO)?

Outstanding problems…



- Evidenze in continuo aggiornamento (di pari passo con l'evolvere dei protocolli di terapia).

- Numero crescente di «raccomandazioni», ma con bassi livelli di evidenza e spesso discordanti

Original Article

Fertility Preservation in Children, Adolescents, and Young Adults With Cancer: Quality of Clinical Practice Guidelines and Variations in Recommendations

TABLE 2. Concordant and Discordant Guideline Areas in High-Quality Female Fertility Preservation CPGs

	Concordant[a]	% per Row	Discordant[b]	% per Row	Total
Who					11
What					7
When					7
Who ... de					13
What					9
Total					47

Abbr...
[a] Con...
[b] Disc... ...menda-
tion, ...

CONCLUSIONS: Only approximately **one-third of** the identified **CPGs were found to be of sufficient quality**. Of these CPGs, **the fertility preservation recommendations varied substantially, which can be a reflection of inadequate evidence for specific recommendations**, thereby hindering the ability of providers to deliver high-quality care. CPGs including a transparent decision process for fertility preservation can help health care providers to deliver optimal and uniform care, thus improving the quality of life of CAYAs with cancer and cancer survivors

TAB...

	Concordant	% per Row	Discordant	% per Row	Total
Who					10
What					8
When					8
Who ... ab					13
What are the ethical and logistical aspects?	1	20.0	4	80.0	5
Total	5	11.4	39	88.6	44

Recommendations for cardiomyopathy surveillance for survivors of childhood cancer: a report from the International Late Effects of Childhood Cancer Guideline Harmonization Group

Saro H Armenian, Melissa M Hudson, Renee L Mulder, Ming Hui Chen, Louis S Constine, Mary Dwyer, Paul C Nathan, Wim J E Tissing, Sadhna Shankar, Elske Sieswerda, Rod Skinner, Julia Steinberger, Elvira C van Dalen, Helena van der Pal, W Hamish Wallace, Gill Levitt, Leontien C M Kremer

	North American Children's Oncology Group	Dutch Childhood Oncology Group	UK Children's Cancer and Leukaemia Group	Scottish Intercollegiate Guidelines Network	Concordance/ discordance
Who needs cardiomyopathy surveillance?					
Treatments that increase risk					
Anthracyclines	Yes	Yes	Yes	Yes	Concordance
Mitoxantrone	Yes	Yes	Yes	Yes	Concordance
Differing risk by anthracycline analogues	Yes	Not stated	Not stated	Not stated	Discordance
Chest radiation	Yes	Yes	Yes	Yes	Concordance
Cardiovascular risk factors	Yes	Yes	Yes	Yes	Concordance
Highest risk factors	≥300 mg/m² anthracyclines ≥30 Gy RT involving heart* Anthracyclines + chest RT Younger age at treatment Pregnancy	≥300 mg/m² anthracyclines ≥30 Gy RT involving heart* Anthracyclines + chest RT Pregnancy	>250 mg/m² anthracyclines Anthracyclines + chest RT History of transient cardiomyopathy during treatment Pregnancy	>250 mg/m² anthracyclines ≥30 Gy RT involving heart* Anthracyclines + chest RT	Discordance
What surveillance modality should be used?					
Screening for cardiomyopathy					
Echocardiography	Yes	Yes	Yes	Yes	Concordance
Radionuclide angiography	Yes	Yes	No	No	Discordance
At what frequency and for how long should cardiomyopathy surveillance be performed?					
Screening begins	≥2 years after treatment or ≥5 years after diagnosis (whichever is first)	≥5 years after diagnosis	1–3 months after treatment	≥5 years after completion of treatment	Discordance
Screening frequency	Every 1–5 years	Every 2–5 years	Every 3–5 years	Every 2–5 years	Discordance
Duration of screening	Lifelong	Lifelong	Not stated	Not stated	Discordance
Closer monitoring during pregnancy	Yes	Yes	Yes	Yes	Concordance
What should be done when abnormalities are identified?					
Refer to cardiologist	Yes	Yes	Yes	Yes	Concordance
Consider ACE inhibitors	Not stated	Yes	Not stated	Yes	Discordance

RT=radiotherapy. ACE=angiotensin converting enzyme. *RT involving the heart: mediastinal, thoracic, spinal, left or whole upper abdominal or total body irradiation.

Table 1: **Concordances and discordances in cardiomyopathy surveillance recommendations**

RACCOMANDAZIONI PER IL MONITORAGGIO A LUNGO TERMINE DEI PAZIENTI PRECEDENTEMENTE CURATI PER LINFOMA DI HODGKIN, LINFOMA PRIMITIVO DEL MEDIASTINO E LINFOMI NON- HODGKIN AGGRESSIVI TRATTATI CON INTENTO CURATIVO

A cura del Gruppo di Studio del Monitoraggio clinico a lungo termine del paziente: tossicità delle terapie antitumorali

Coordinatore: Enrico Brignardello

Partecipanti:

Elisa Bellini, Eleonora Biasin, Carola Boccomini, Elena Buzzi, Margherita Caramuta, Simona Chiadò Cutin, Maria Teresa Corsetti, Nerina Denaro, Diego Dongiovanni, Francesco Felicetti, Nicoletta Fortunati, Luisa Giaccone, Francesco Moretto, Cristina Piva, Patrizia Piano, Andrea Pizzini, Maria Antonia Polimeni, Agostino Ponzetti, Patrizia Pregno, Roberto Sorasio.