癌症治療引起之癌因性疲憊症治療照護

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除了癌症治療……

癌症患者的醫療還包含多種層面

Many aspects of supportive care

Nutrition

Anaemia

Diarrhoe/Obstipation

Pulmonary Tox.

Infections

Cardiotoxicity

Neutropenia

Antiemesis

Paravasation

Fertility

Tumorlysis

Fatigue

Pain

Neurotoxicity

Thrombocytopenia

Psychological support

Supportive measures in radiation therapy

Renal toxicity

Bone complications

Lymphedema

New Toxicities (Targeted drugs)

Venous Thromboembolism

Courtesy of Dr. 謝瑞坤

因化療讓患者感到痛苦的事

1983

- **Being sick (vomiting)**
- **Feeling sick (nausea)**
- Loss of hair
- Thought of coming for treatment
- Length of time treatment takes at the clinic
- Having to have an injection
- Shortness of breath
- Constantly tired
- Difficulty sleeping
- Affects family or partner

1995　5-HT3 / dex

- **Feeling sick (nausea)**
- Loss of hair
- **Being sick (vomiting)**
- Constantly tired
- Having to have an injection
- Constipation
- Thought of coming for treatment
- Affects family or partner
- Feeling low, miserable (depression)
- Feeling anxious

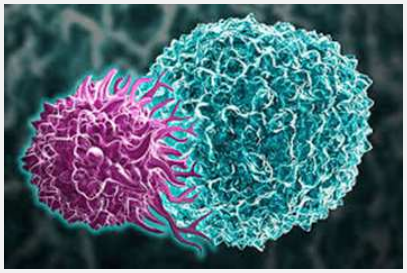
Courtesy of Dr. 謝瑞坤

疾病治療之目的：維持生活品質

Earlier goals of therapy

Tumor response

Survival



Current goals of therapy

Tumor response

Survival

- With improving survival rates, there is now a greater emphasis on efforts to **maximize the quality of life** and psychological health of ovarian cancer survivors.

Anke Smits et al., Int J Gynecol Cancer. (2015)
L WENZEL et al.,Int J Gynaecol Obstet. (2003)
Dana M Chase et al., Expert Rev Pharmacoecon Outcome Res. (2011)

積極的緩和醫療能幫助癌症病人活得更好更久

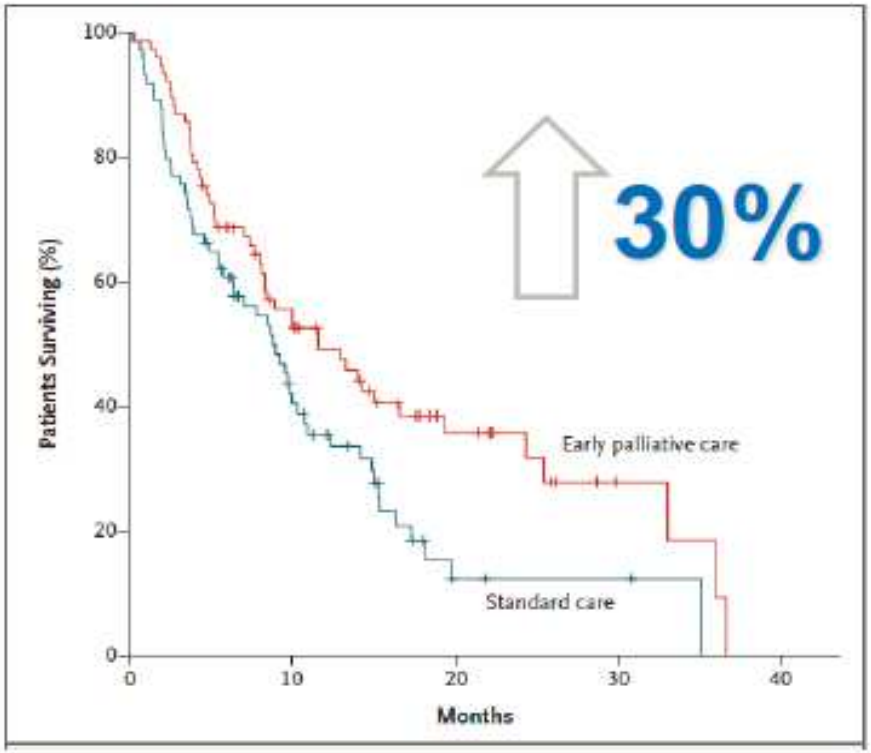
The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Early Palliative Care for Patients with Metastatic Non–Small-Cell Lung Cancer

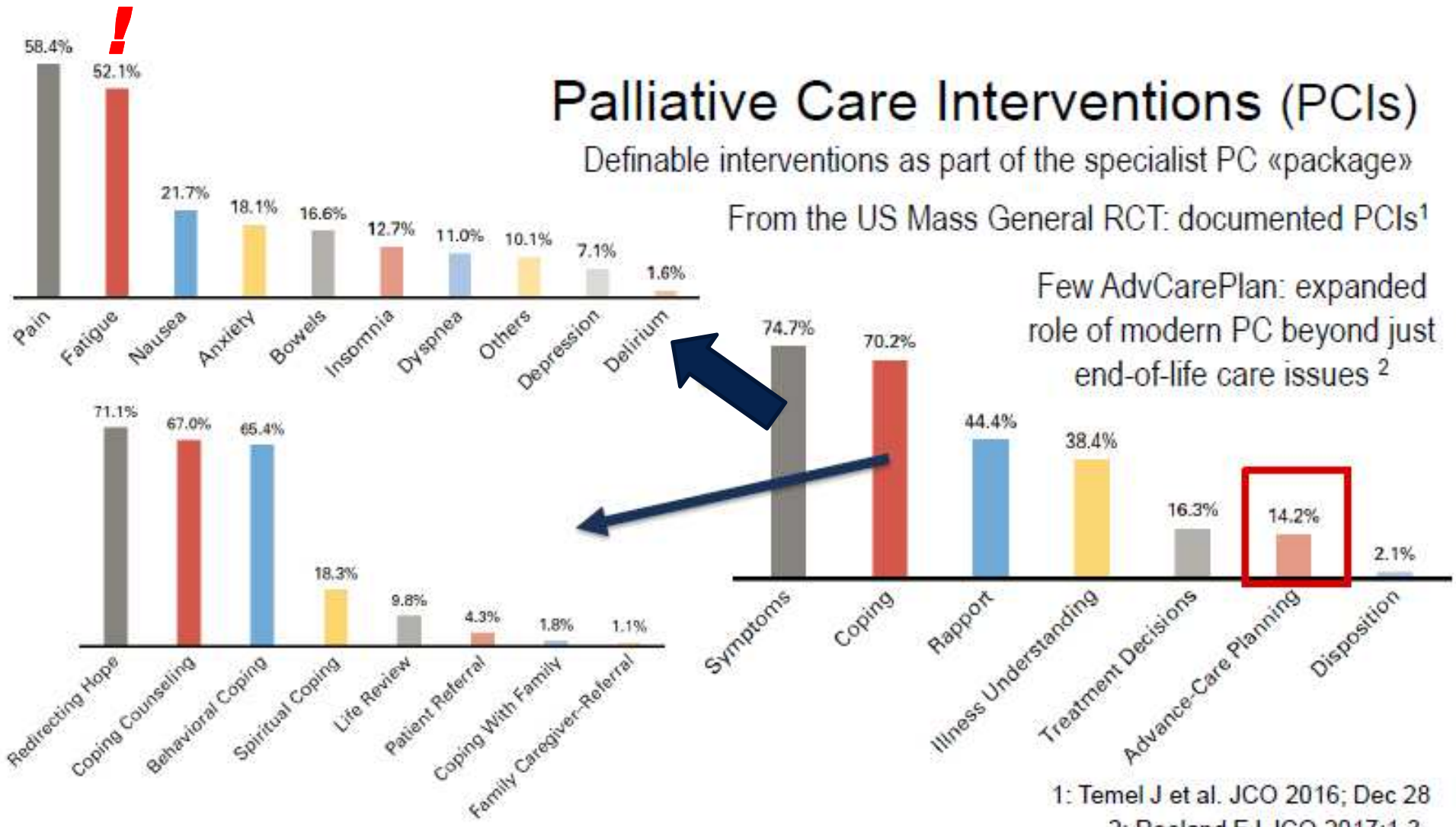
Jennifer S. Temel, M.D., Joseph A. Greer, Ph.D., Alona Muzikansky, M.A., Emily R. Gallagher, R.N., Sonal Admane, M.B., B.S., M.P.H., Vicki A. Jackson, M.D., M.P.H., Constance M. Dahlin, A.P.N., Craig D. Blinderman, M.D., Juliet Jacobsen, M.D., William F. Pirl, M.D., M.P.H., J. Andrew Billings, M.D., and Thomas J. Lynch, M.D.

	Early Palliative care with Oncologic Care	Oncologic Care	P. value
P't No.	77	74	
Median Survival	11.6 mth	8.9 mth	0.02



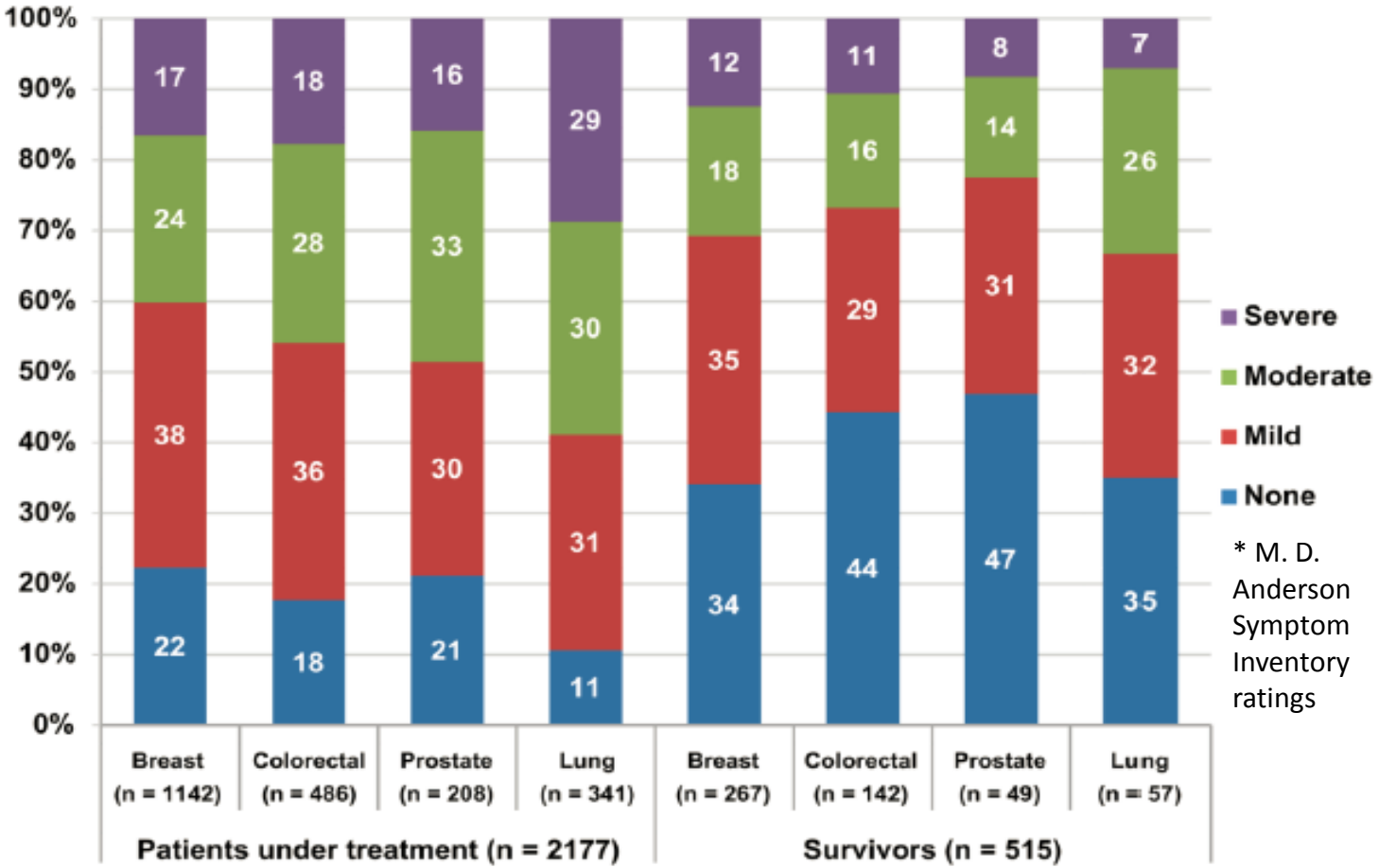
N Engl J Med 2010; 363: 733- 42

面對癌症患者的生理 病理以及心理層面



1: Temel J et al. JCO 2016; Dec 28
2: Roeland EJ JCO 2017;1-3

High prevalence of moderate/severe fatigue in both actively treated cancer patients & survivors



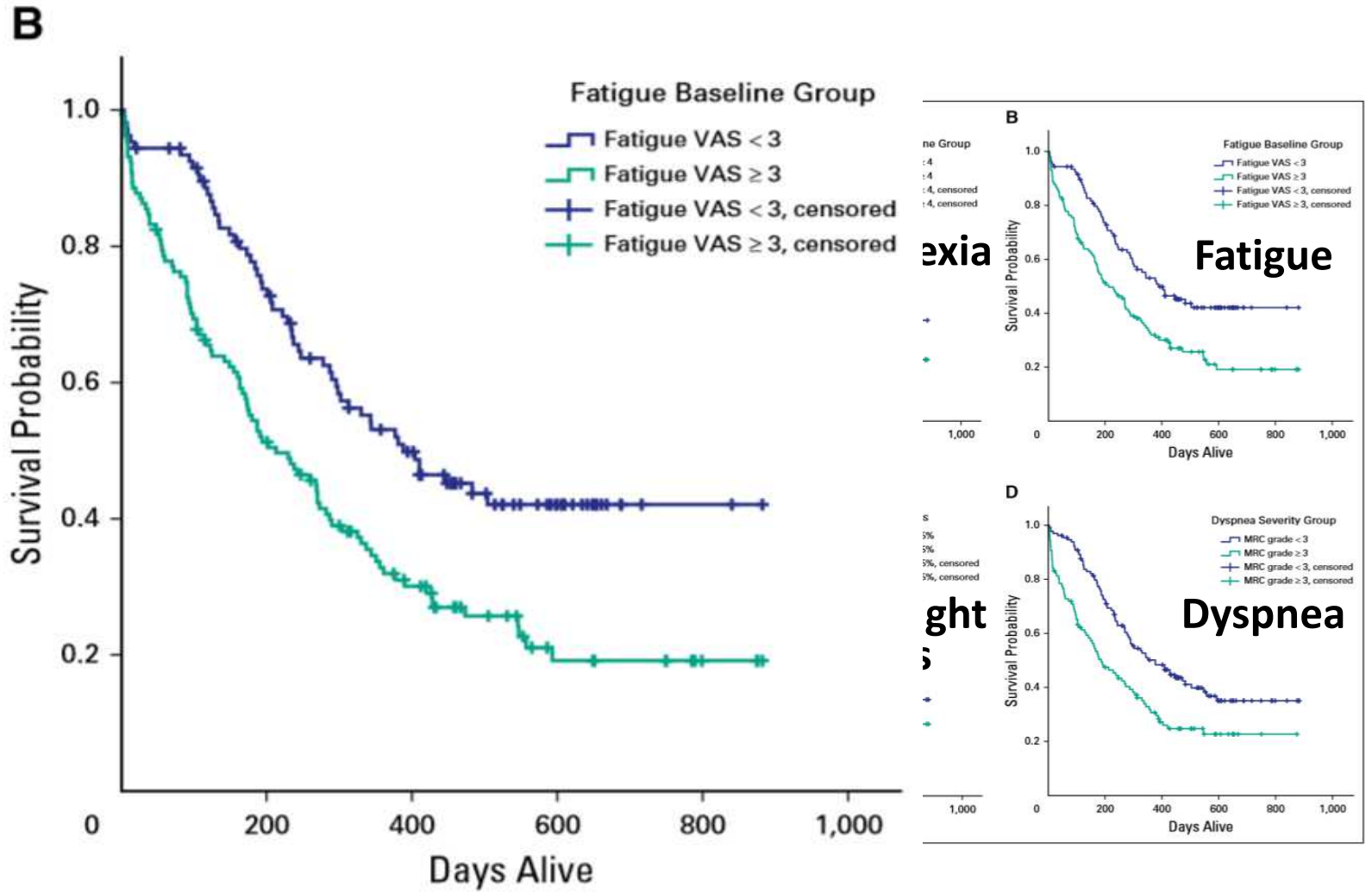
* M. D. Anderson Symptom Inventory ratings

Prevalence of fatigue by cancer type

Wang et al. Prevalence and characteristics of moderate-to-severe fatigue: a multicenter study in cancer patients and survivors. Cancer. 2014; 120(3): 425–432.

多變數分析顯示在肺癌的病人：

Fatigue與全存活、疾病進展、放射治療反應具相關性



Singh PS et at., Simplified Graded Baseline Symptom Assessment in Patients With Lung Cancer Undergoing First-Line Chemotherapy: Correlations and Prognostic Role in a Resource-Constrained Setting. J Glob Oncol. 2016 May 11;3(1):54-63.

Fatigue (+Dyspnea)程度較小，肺癌存活較長

		SxCl (+)	Cough	Fatigue	Dyspnea	Cough + Fatigue	Cough + Dypnea	Fatigue + Dyspnea
Year 1 N = 1828	Hazard Ratio	1.56	1.44	1.58	1.49	1.52	1.60	1.45
	95% CI	1.29 – 1.88	1.23 – 1.69	1.37 – 1.82	1.29 – 1.72	1.28 – 1.81	1.34 – 1.92	1.25 – 1.68
	p value	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
	AIC	10579.8	10609.2	10641.3	10651.5	10579.1	10589.7	10643.2
Year 2 N = 1244	Hazard Ratio	1.42	1.58	1.99	1.59	1.55	1.54	1.57
	95% CI	1.04 – 1.93	1.22 – 2.05	1.60 – 2.48	1.27 – 1.98	1.16 – 2.06	1.16 – 2.05	1.24 – 1.99
	p value	0.0279	0.0005	<0.0001	<0.0001	0.0031	0.003	0.0002
	AIC	4210.8	4204.1	4218.8	4240.6	4207.2	4207.2	4243.5
Year 3 N = 941	Hazard Ratio	2.07	1.82	2.16	1.67	1.96	1.89	1.93
	95% CI	1.44 – 2.99	1.30 – 2.56	1.62 – 2.88	1.26 – 2.22	1.36 – 2.82	1.33 – 2.68	1.43 – 2.59
	p value	<0.0001	0.0005	<0.0001	0.0004	0.0003	0.0004	<0.0001
	AIC	2399.1	2429.3	2422.7	2454.7	2401.0	2428.7	2421.1
Year 4 N = 738	Hazard Ratio	1.43	1.20	2.02	1.25	1.40	1.38	1.48
	95% CI	0.83 – 2.46	0.75 – 1.94	1.36 – 3.01	0.83 – 1.86	0.85 – 2.29	0.82 – 2.30	0.98 – 2.23
	p value	0.1968	0.4467	0.0005	0.2841	0.1891	0.2261	0.0607
	AIC	1234.3	1235.5	1248.4	1259.8	1234.3	1234.7	1257.4
Year 5 N = 482	Hazard Ratio	1.46	1.18	4.32	1.79	1.48	1.29	2.44
	95% CI	0.74 – 2.88	0.63 – 2.19	2.37 – 7.88	1.02 – 3.13	0.77 – 2.87	0.68 – 2.43	1.40 – 4.25
	p value	0.2753	0.6034	<0.0001	0.0411	0.2428	0.4410	0.0016
	AIC	589.5	612.5	586.5	608.3	600.3	601.2	591.6

SxCl = Symptom cluster, AIC = Akaike information criteria.

Cheville AL, et al., The Value of a Symptom Cluster of Fatigue, Dyspnea, and Cough in Predicting Clinical Outcomes in Lung Cancer Survivors. J Pain Symptom Manage . 2011 August ; 42(2): 213–221.

Fatigue (+Dyspnea)程度較小，臨床成效較佳

Employment Status

	N	Odds Ratio (95% CI)	p-value	AIC
Symptom Cluster	754	0.78 (0.48 to 1.28)	0.329	955.73
Cough	754	0.97 (0.62 to 1.50)	0.873	956.79
Fatigue	754	0.70 (0.49 to 1.00)	0.050	952.27
Dyspnea	754	0.58 (0.41 to 0.84)	0.003	946.85
Fatigue and Dyspnea	754	0.60 (0.41 to 0.86)	0.006	947.79
Fatigue and Cough	754	0.79 (0.49 to 1.26)	0.316	955.67
Dyspnea and Cough	754	0.90 (0.56 to 1.45)	0.586	956.61

SxCl = Symptom cluster, AIC =Akaike information criteria.

Overall Quality of Life

	N	Odds Ratio (95% CI)	p-value	AIC
SxCl	718	1.42 (0.72 to 2.77)	0.310	419.30
Cough	718	1.35 (0.71 to 2.55)	0.358	419.46
Fatigue	718	4.04 (1.87 to 8.70)	0.0004	402.78
Dyspnea	718	3.90 (2.01 to 7.55)	<0.0001	401.40
Fatigue and Dyspnea	718	3.93 (2.12 to 7.28)	<0.0001	399.51
Fatigue and Cough	718	1.32 (0.69 to 2.55)	0.403	419.61
Dyspnea and Cough	718	1.50 (0.78 to 2.88)	0.229	418.90

SxCl = Symptom cluster, AIC = Akaike information criteria.

Performance of Regular Physical Activity

	N	Odds Ratio (95% CI)	p-value	AIC
Symptom Cluster	694	0.68 (0.42 to 1.10)	0.114	946.00
Cough	694	0.79 (0.52 to 1.21)	0.284	947.42
Fatigue	694	0.49 (0.35 to 0.68)	<0.0001	929.72
Dyspnea	694	0.43 (0.31 to 0.61)	<0.0001	924.90
Fatigue and Dyspnea	694	0.46 (0.32 to 0.66)	<0.0001	929.43
Fatigue and Cough	694	0.61 (0.38 to 0.96)	0.040	943.90
Dyspnea and Cough	694	0.77 (0.48 to 1.22)	0.260	947.29

SxCl = Symptom cluster, AIC = Akaike information criteria.

- **Clinical outcomes臨床成效包括:**
  - ✓ Employment Status 工作狀態
  - ✓ Performance of Regular Physical Activity 常規身體活動表現
  - ✓ Overall Quality of Life 生活品質

Cheville AL, et al., The Value of a Symptom Cluster of Fatigue, Dyspnea, and Cough in Predicting Clinical Outcomes in Lung Cancer Survivors. J Pain Symptom Manage . 2011 August ; 42(2): 213–221.

隨著癌症多種合併治療的進行，可預測患者發生重度疲憊的風險更高

整合分析12,327位乳癌存活者，1/4病患在癌症治療後有重度疲憊

Table 3. Risk factors of severe fatigue in breast cancer survivors

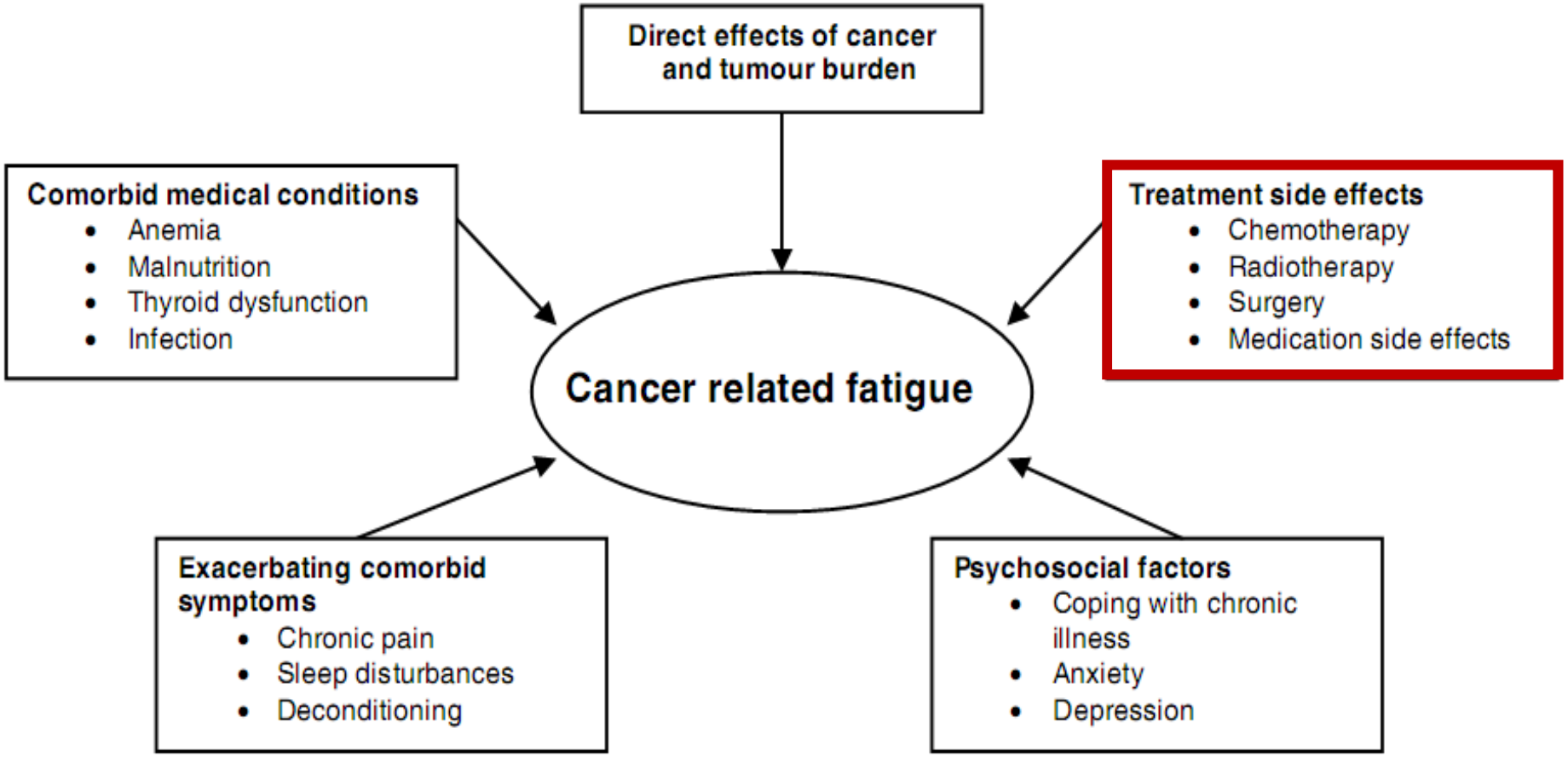
Variables	References	Number of studies	Sample size (*N*)	Risk ratio (CI)
Treatment combinations				
SU	[26, 38, 42, 45, 47, 56, 57]	6	3028	0.83 (0.70 to 0.98)*
SU + CT	[32, 38, 42, 47, 55–57]	7	3379	1.33 (0.97 to 1.82)
SU + RT	[26, 32, 38, 45–48, 50, 55–57]	11	4164	0.87 (0.78 to 0.96)*
SU + HT	[38, 42, 45–47]	4	981	0.83 (0.57 to 1.20)
SU + CT + RT	[26, 32, 38, 45–48, 55–57]	10	3882	1.18 (1.05 to 1.33)*
SU + CT + HT	[38, 42, 45–47]	4	981	0.99 (0.66 to 1.49)
SU + RT + HT	[26, 38, 45–48]	6	1264	0.89 (0.74 to 1.07)
SU + CT + RT + HT	[26, 38, 45–48]	6	1264	1.38 (1.15 to 1.66)*

*$P < 0.05$.

SU, surgery; CT, chemotherapy; RT, radiotherapy; HT, hormone therapy; SMD, standardized mean difference; SD, standard deviation.

Abrahams HJ et al. Risk factors, prevalence, and course of severe fatigue after breast cancer treatment: a meta-analysis involving 12 327 breast cancer survivors. Ann Oncol. 2016 Jun;27(6):965-74.

癌因性疲憊症



British Journal of Cancer (2004) 91, 822–828

Review

A Practical Approach to Fatigue Management in Colorectal Cancer

Matti Aapro,[1] Florian Scotte,[2] Thierry Bouillet,[3] David Currow,[4] Antonio Vigano[5]

Abstract

Cancer-related fatigue is serious and complex, as well as one of the most common symptoms experienced by patients with colorectal cancer, with the potential to compromise quality of life, activities of daily living, and ultimately survival. There is a lack of consensus about the definition of cancer-related fatigue; however, definitions have been put forward by the European Association for Palliative Care (EAPC) and the National Comprehensive Cancer Network (NCCN). Numerous cancer- and treatment-related factors can contribute to fatigue, including disease progression, comorbidities, medical complications such as anemia, side effects of other medications, and a number of physical and psychologic factors. This underlines the importance of tackling factors that may contribute to fatigue before reducing the dose of treatment. NCCN guidelines and the EAPC have proposed approaches to managing fatigue in cancer patients; however, relatively few therapeutic agents have been demonstrated to reduce fatigue in randomized controlled trials. It is recognized that physical activity produces many beneficial physiologic modifications to markers of physical performance that can help to counteract various causes of fatigue. In appropriately managed and monitored patients with colorectal cancer, emerging evidence indicates that exercise programs may have a favorable influence on cancer-related fatigue, quality of life, and clinical outcomes, and therefore may help patients tolerate chemotherapy. This review assesses fatigue in patients with colorectal cancer and proposes updates to a treatment algorithm that may help clinicians manage this common problem.

Clinical Colorectal Cancer, Vol. 16, No. 4, 275-85

Keywords: Cancer management, Cancer-related fatigue, Colorectal cancer, Exercise, Quality of life

Table 2 Examples of Rates of Fatigue With Chemotherapy and Targeted Treatments for Metastatic Colorectal Cancer

Regimen	Line	n	Grade 3/4
Chemotherapy			
FOLFIRI[13]	1	209	10%
FOLFOX-4[14]	1	649	7.9%
XELOX[14]	1	655	5.2%
FOLFOX-4[15]	2	308	8.8%
XELOX[15]	2	311	7.1%
Targeted Therapies			
Aflibercept-FOLFIRI[16]	>1[a]	1226	<5% difference compared to FOLFIRI and <20% in combination arm
Bevacizumab-XELOX/FOLFOX-4[17]	1	1401	Not cited in "adverse events of special interest to bevacizumab"
FLOX[18]	1	185	10%
Cetuximab-FLOX[18]	1	194	16%
Cetuximab-FLOX (intermittent)[18]	1	187	11%
Panitumumab-FOLFIRI[19]	2	1186	<5% difference compared to FOLFIRI
Regorafenib[20]	>1	500	9.6% vs. 5.1% in placebo arm (<5% difference)
Regorafenib[21]	>1	136	2.9% vs. 1.5% in placebo arm (<5% difference)

FLOX= fluorouracil, leucovorin, oxaliplatin;
FOLFIRI= fluorouracil, leucovorin, irinotecan;
FOLFOX-4 = 5-fluorouracil, leucovorin, oxaliplatin;
XELOX= capecitabine, oxaliplatin.
a: Including adjuvant therapy

Clinical Colorectal Cance 2016; 16(4): 275-85.

大腸直腸癌化療藥物及標靶藥物常見疲憊產生

乳癌標靶藥疲憊發生率

CDK 4/6 Inhibitor	Neutropenia (%)		Fatigue (%)		Nausea (%)		Diarrhea (%)		QTc prolongation (%)	
	G3/4	All	G3/4	All	G3/4	All	G3/4	All	G3/4	All
Palbociclib	54	73	2	24	2	16	4	21	NR	NR
Abemaciclib	19	40	2	43	4	57	6	68	NR	NR
Ribociclib	29	46	3	29	2	46	3	22	0	8%

ALK+肺癌標靶藥疲憊發生率

Alectinib 600 mg b.i.d. (n = 253)	
Adverse reaction	All grades
Fatigue	41%
Constipation	34%
Edema	30%
Myalgia	29%

Clin Cancer Res; 22(21) November 1, 2016

肝癌標靶藥物疲憊發生率: 以Nexavar為例

	Incidence of treatment-emergent adverse events* (%)			
	Nexavar (n=451)		Placebo (n=451)	
	Any grade	Grades 3–4	Any grade	Grades 3–4
Diarrhoea	43	2	13	1
Fatigue	37	5	28	4
Hand–foot skin reaction	30	6	7	–
Hypertension	17	4	2	<1
Dyspnoea	14	4	12	2
Decreased haemoglobin	8	3	7	4
Bone pain	8	1	8	3
Tumour pain	6	3	5	2
Rash	40	1	16	<1

*National Cancer Institute-Common Toxicity Criteria (Version 3); treatment-emergent adverse events occurring in 2% of patients

非小細胞肺癌化療藥物疲憊發生率: 以Pemetrexed為例

	Pemetrexed (N=441) %		Placebo (N=222) %	
	Grade 3/4	All grades	Grade 3/4	All grades
Neutropenia ‡	3	6	0	0
Anemia	3	15	1	5
Leukopenia	2	6	1	2
Fatigue	**5**	**24**	**1**	**10**
Anorexia	2	19	0	5
Infection	1	5	0	2
Diarrhea	1	5	0	3
Nausea	1	19	1	5
Vomiting	<1	9	0	1
Sensory neutropathy	1	9	0	4
Mucositis / Stomatitis	1	7	0	2
Early Discontinuation for Toxicity	5		1	

*NCI CTC version 3.0‡ P< 0.05 for ¾ rates of neutropenia and fatigue

Ciuleanu et al. Lancet 374:1432-1440 (20)

非小細胞肺癌化療及標靶藥物疲憊發生率: 以Docetaxel及 Gefitinib為例

	All adverse events		p value*	Grade 3–4 adverse events	
	Gefitinib (n=729)	Docetaxel (n=715)		Gefitinib (n=729)	Docetaxel (n=715)
Neutropenia†	35 (5·0%)‡	514 (73·7%)‡	<0·0001	15 (2·2%)§	406 (58·2%)§
Febrile neutropenia	9 (1·2%)	72 (10·1%)	<0·0001	9 (1·2%)	72 (10·1%)
Rash/acne¶	360 (49·4%)	73 (10·2%)	<0·0001	15 (2·1%)	4 (0·6%)
Asthenic disorders¶	182 (25·0%)	334 (46·7%)	<0·0001	32 (4·4%)	64 (9·0%)
Diarrhoea	255 (35·0%)	177 (24·8%)	<0·0001	18 (2·5%)	22 (3·1%)
Nausea	148 (20·3%)	187 (26·2%)	0·0088	3 (0·4%)	9 (1·3%)
Anorexia¶	159 (21·8%)	151 (21·1%)	0·80	11 (1·5%)	7 (1·0%)
Alopecia	23 (3·2%)	254 (35·5%)	<0·0001	0	0
Dyspnoea	120 (16·5%)	117 (16·4%)	1·0	45 (6·2%)	55 (7·7%)
Vomiting	109 (15·0%)	123 (17·2%)	0·25	4 (0·5%)	8 (1·1%)
Neurotoxicity¶	49 (6·7%)	171 (23·9%)	<0·0001	1 (0·1%)	17 (2·4%)
Cough	108 (14·8%)	102 (14·3%)	0·82	6 (0·8%)	5 (0·7%)
Constipation	79 (10·8%)	121 (16·9%)	0·0010	6 (0·8%)	13 (1·8%)
Pyrexia	69 (9·5%)	118 (16·5%)	<0·0001	2 (0·3%)	4 (0·6%)
Fluid retention¶	48 (6·6%)	112 (15·7%)	<0·0001	0	5 (0·7%)
Stomatitis¶	67 (9·2%)	93 (13·0%)	0·024	0	3 (0·4%)
Lower RTI and lung infections¶	71 (9·7%)	74 (10·3%)	0·73	23 (3·2%)	25 (3·5%)
Myalgia	24 (3·3%)	113 (15·8%)	<0·0001	1 (0·1%)	4 (0·6%)
Dry skin	111 (15·2%)	10 (1·4%)	<0·0001	0	0
Anaemia	34 (4·7%)	84 (11·7%)	<0·0001	11 (1·5%)	15 (2·1%)

Data are number of patients (%), unless otherwise stated. RTI=respiratory tract infection. *A post-hoc analysis assessed individual adverse events with a Fisher exact test. †Data from laboratory reports. Calculations include only patients with a baseline and at least one value after baseline. ‡Worsening in laboratory value from baseline. §Worsening in laboratory value from baseline to common toxicity criteria grade 3–4. n=697 for neutropenia with gefitinib and docetaxel. ¶Grouped term (sum of preferred terms).

Table 2: Adverse events (of more than 10% frequency)

Lancet 2008; 372: 1809–18

轉移性腎細胞癌標靶藥疲憊發生率

Review Article

Ongoing Screening and Treatment to Potentially Reduce Tyrosine Kinase Inhibitor-Related Fatigue in Renal Cell Carcinoma

Deepa Anand, MD, and Carmen P. Escalante, MD
Department of General Internal Medicine, The University of Texas M. D. Anderson Cancer Center, Houston, Texas, USA

TKI	All-Grade Fatigue (%)	High-Grade Fatigue (Grade 3/4) (%)
Sunitinib	53–81	4–11
Sorafenib	20–43	2–10
Axitinib	39	11
Pazopanib	19–44	2

TKI = tyrosine kinase inhibitor.

J Pain Symptom Manage. 2015 Jul;50(1):108-17

婦癌常用化療藥物也常見疲憊發生

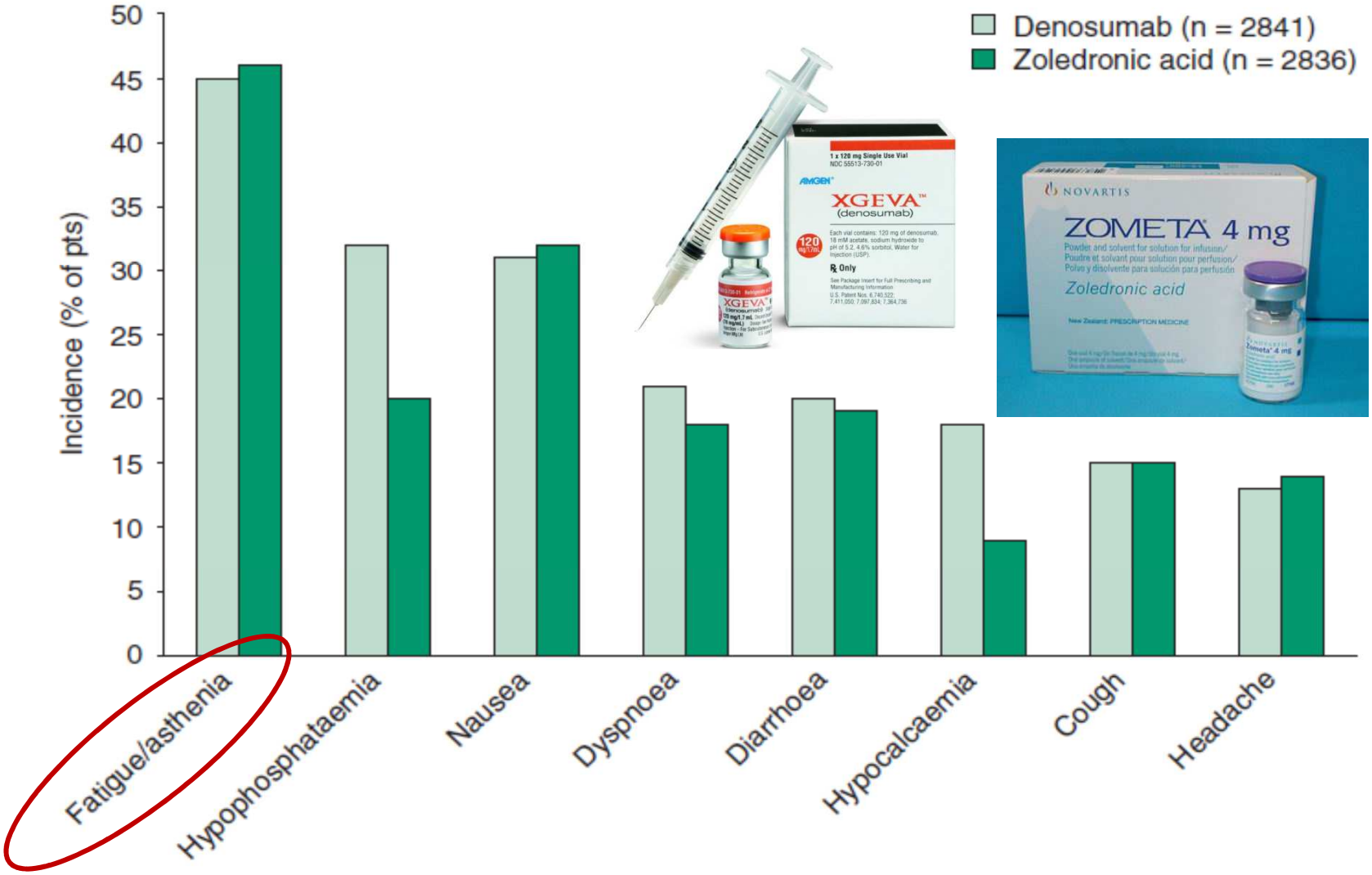
Table 6
Comparison of the present study's weekly topotecan regimen and 2 other administration schedules

Study	Present study 2006	Hochster et al. 1999 [12]	ten Bokkel et al. 2004 [9,19]	Herzog et al. 2006 [21]
Type of topotecan schedule	Weekly [a]	Continuous infusion [b]	Standard [c]	3-day infusion [d]
No. of patients	63	24	226	40
Dose intensity (mg/m^2/week)	3.0	2.0	2.5	2.0
Response rate	23.8%	35%	23%	27.5%
Median time to progression (weeks)	27	26	19	21
Toxicity profile				
Hematologic, grades 3,4				
Neutropenia	7.9%	33%	79%	90%
Thrombocytopenia	4.8%	4%	25%	13%
Hematologic, grades 2,3	49.2%	52%	–	52.5%
Anemia				
Nonhematologic, all grades				
Alopecia	1.8%	–	76%	–
Nausea	15.0%	–	78%	–
Fatigue	31.6%	–	41%	57.5%

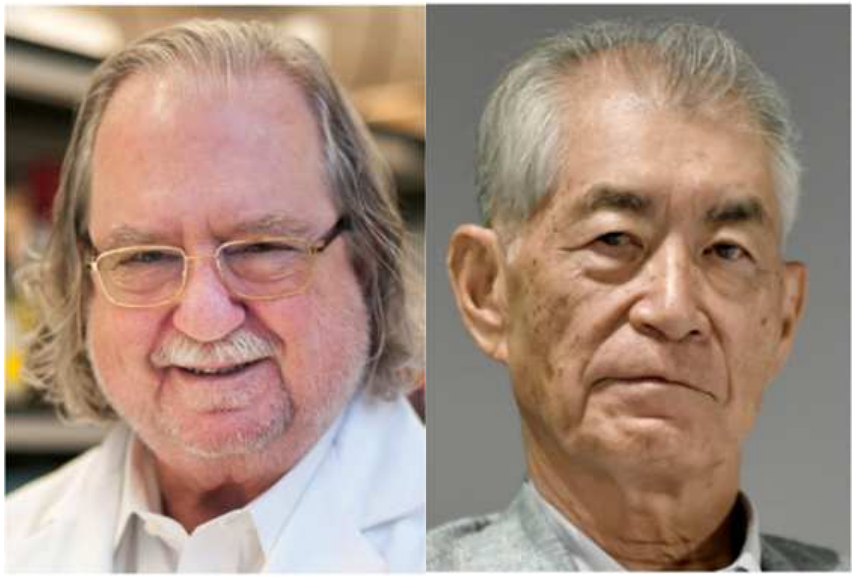
[a] 4.0 mg/m^2 on days 1, 8, and 15 of a 28-day cycle.
[b] 21-day continuous infusion of 0.4 mg /m^2/day.
[c] 1.5 mg/m^2 on days 1–5 of a 21-day cycle.
[d] 2.0 mg/m^2 on days 1–3 of a 21-day cycle.

Efficacy and toxicity of weekly topotecan in recurrent epithelial ovarian and primary peritoneal cancer. Gynecologic Oncology 105 (2007) 205-210.

抗骨轉移藥：也造成疲憊

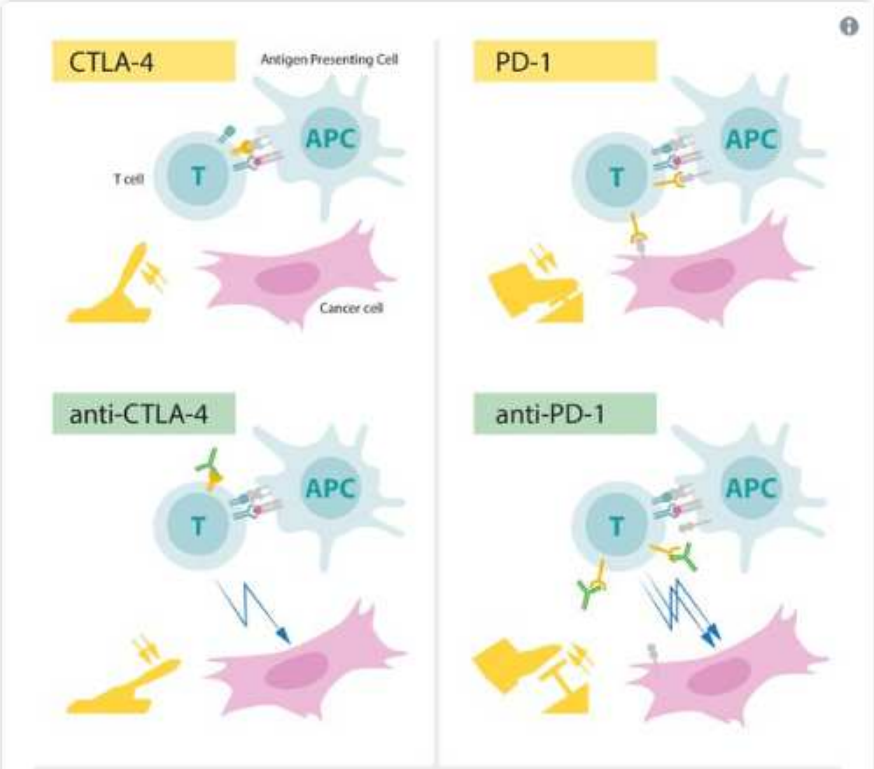

Denosumab (n = 2841)
Zoledronic acid (n = 2836)
Incidence (% of pts)
50
45
40
35
30
25
20
15
10
5
0
Fatigue/asthenia
Hypophosphataemia
Nausea
Dyspnoea
Diarrhoea
Hypocalcaemia
Cough
Headache
XGEVA™
(denosumab)
NOVARTIS
ZOMETA 4 mg
Zoledronic acid

2018諾貝爾醫學獎得主



James P. Allison

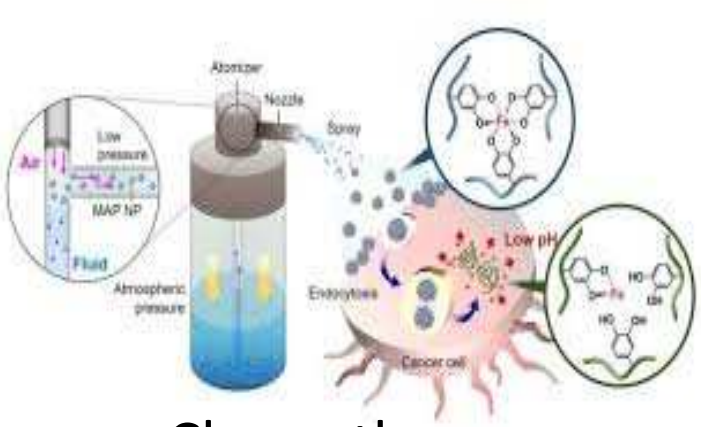
本庶佑
（Tasuku Honjo）



Ipilimumab
(Yervoy)

Nivolumab (Opdivo)
Pembrolizumab (Keytruda)

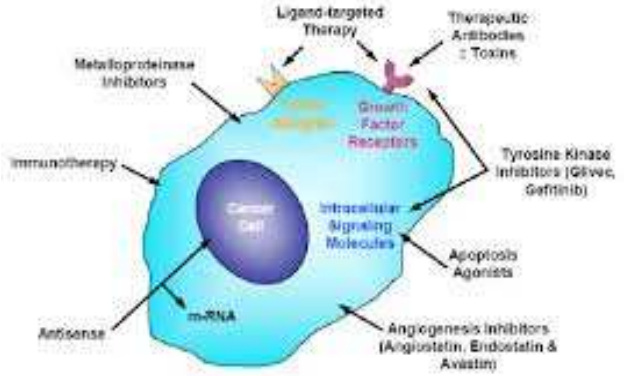
Traditional Cancer treatments



Chemotherapy

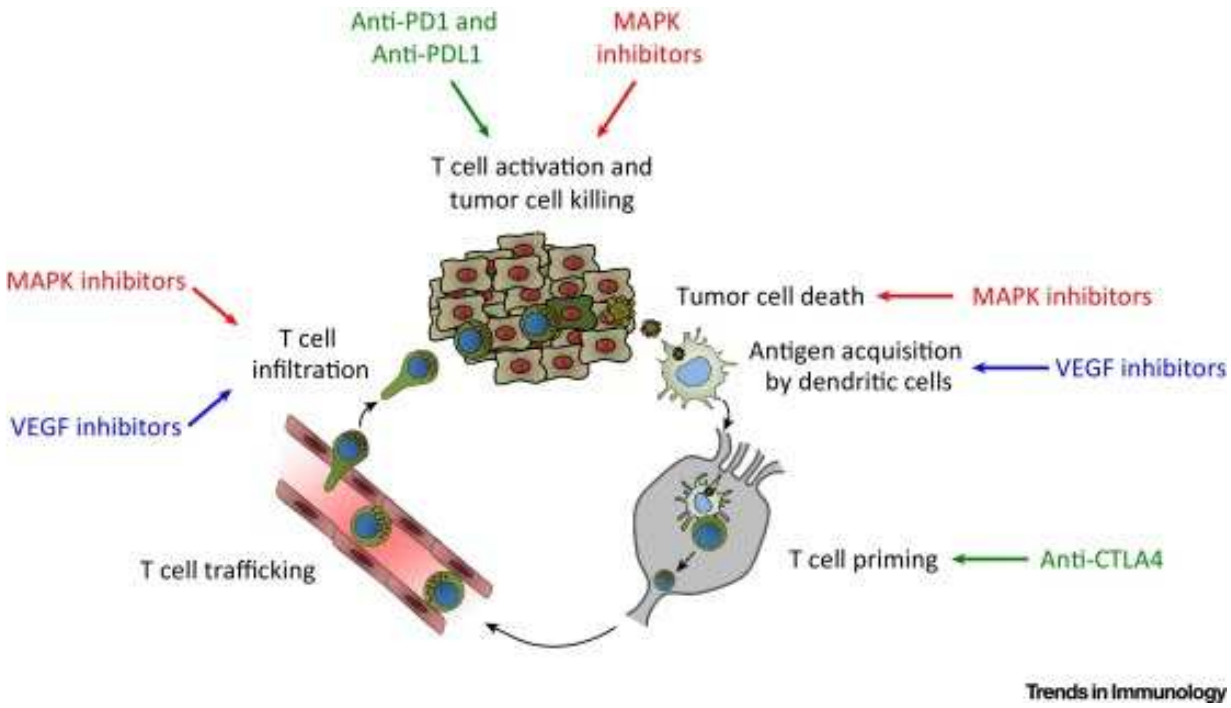
Radiotherapy

Surgery



Targeted therapy

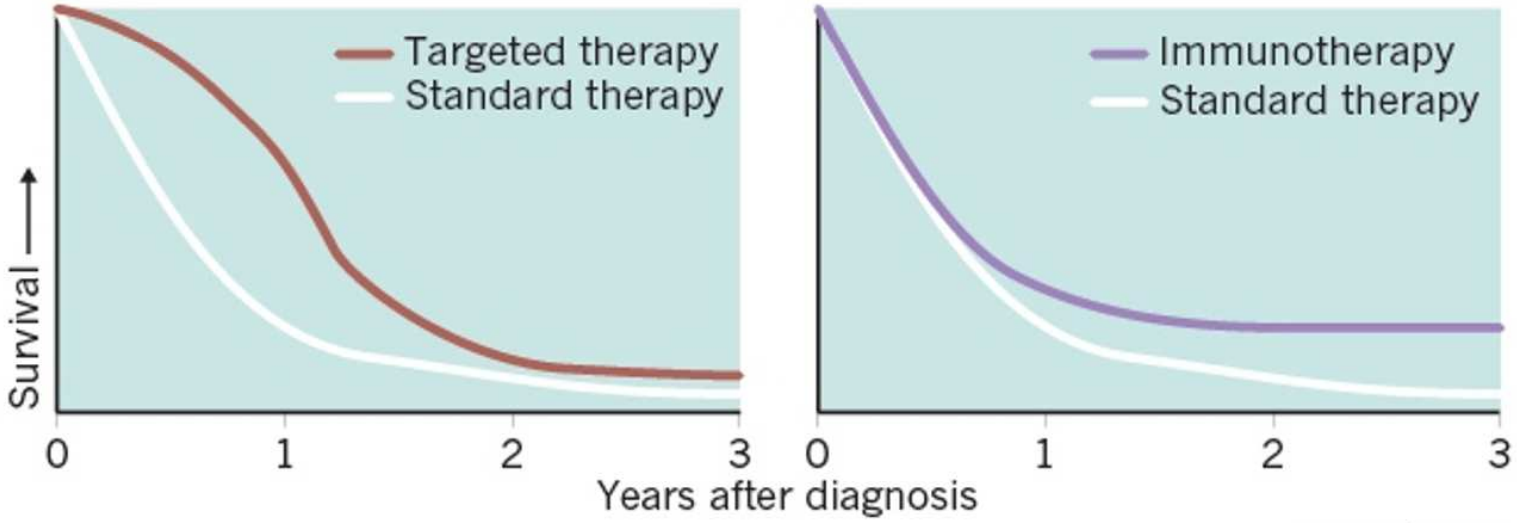
Why is immune check point inhibitors so impressive?



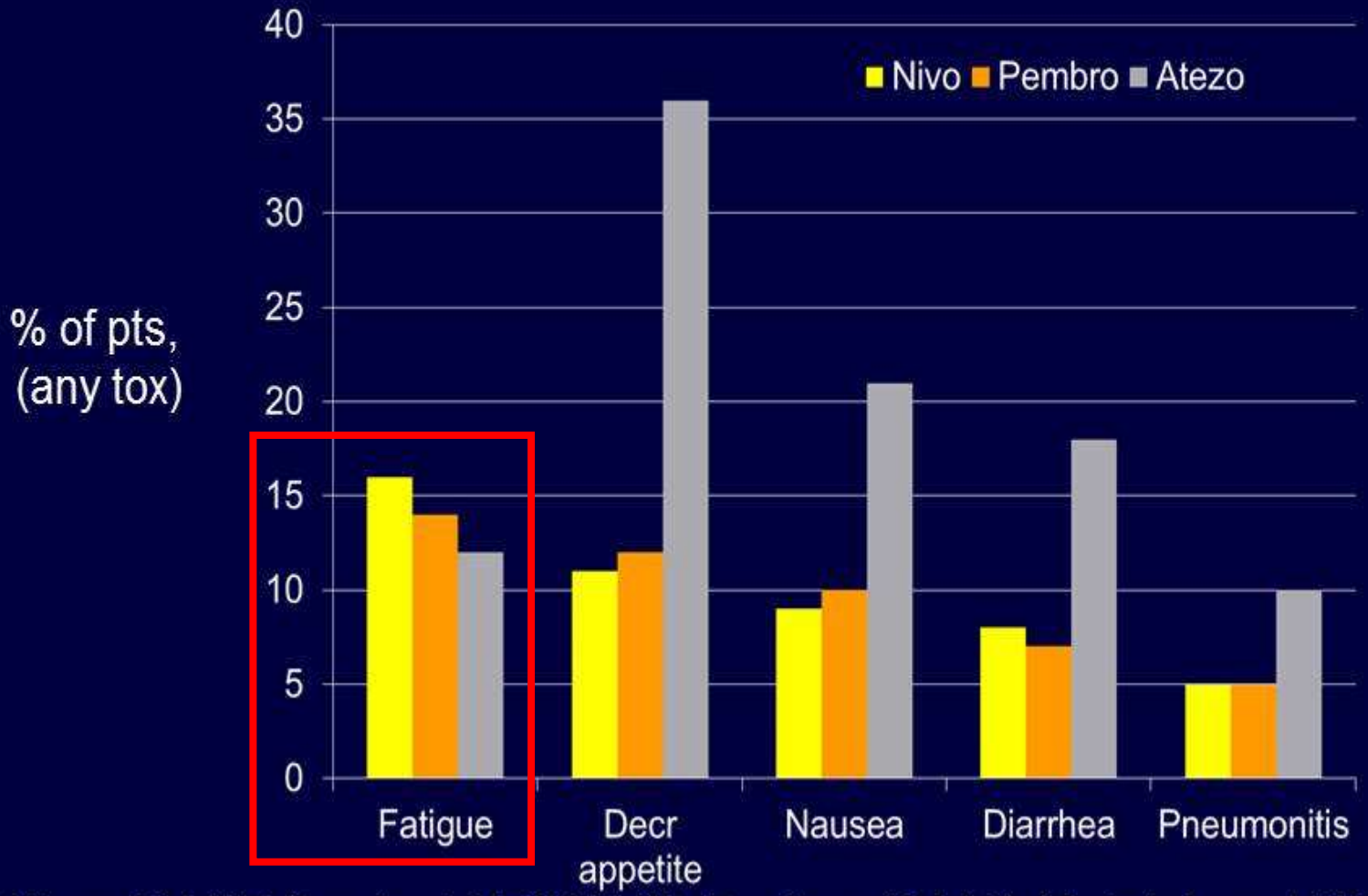
Sustained durable response

DESPERATELY SEEKING SURVIVAL

Patients generally respond well to targeted therapies (left), which are directed at specific mutations in a cancer, but only for a short time. Checkpoint immunotherapies (right) do not help as many people, but those they do help tend to live longer. Oncologists are trying to get the best out of both strategies by combining the drugs.



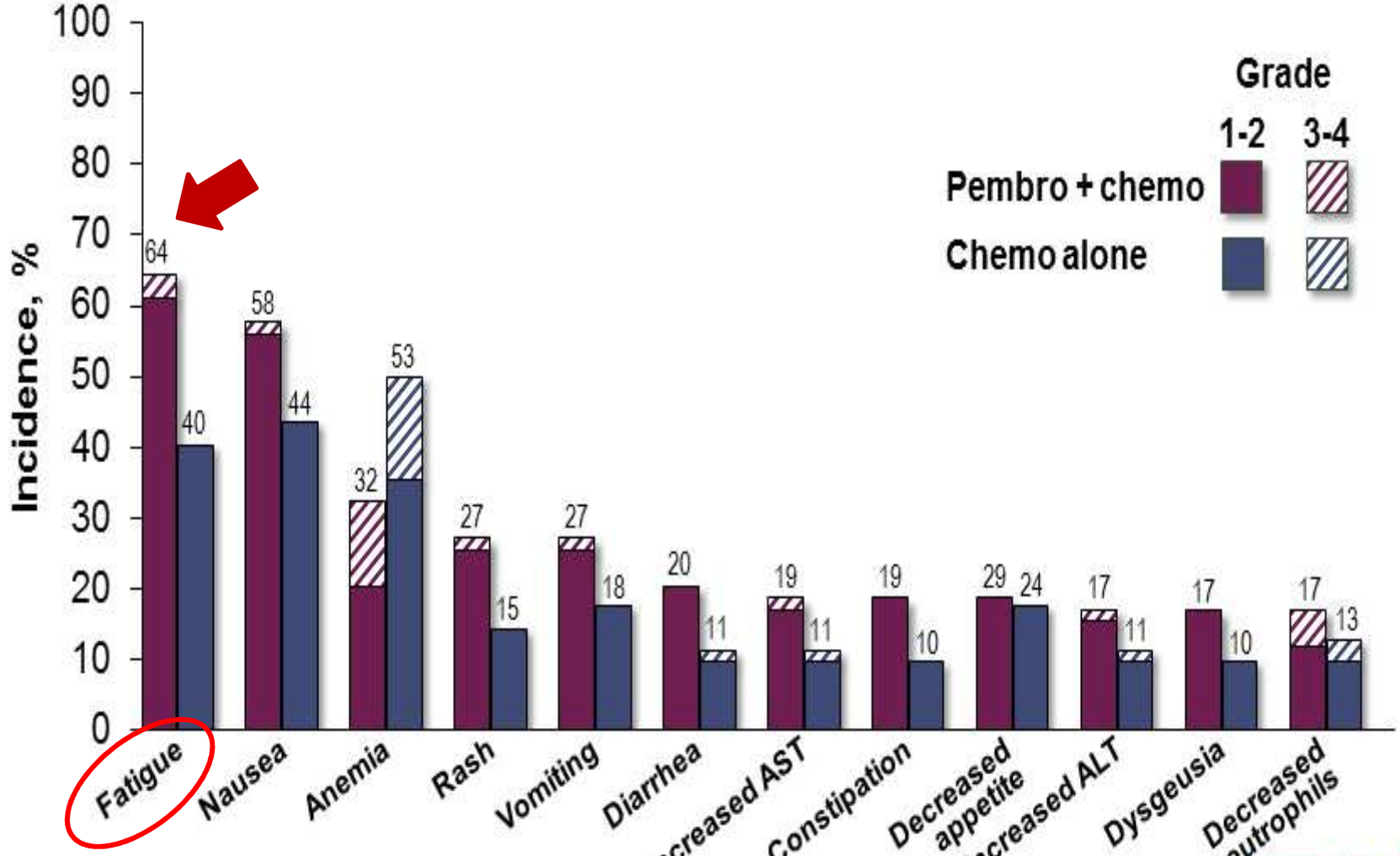
Second Line vs. Docetaxel: PD-1 & PD-L1 Inhibitors Share Similar Side Effect Profiles



Nivo = CM 057 (Borghaei, *NEJM* 2015); Pembro = KN-010 (Herbst, *Lancet* 2016); Atezo = POPLAR (Fehrenbacher, *Lancet* 2016)

Treatment-Related Adverse Events With Incidence ≥15%

CJ Langer. ESMO 2016.



Data cut-off: August 8, 2016.

Definition of Cancer-Related Fatigue

- A distressing persistent, subjective sense of **physical**, **emotional** and/or **cognitive** tiredness or exhaustion related to **cancer or cancer treatment** that is not proportional to recent activity and interferes with usual functioning.

NCCN Clinical Practice Guidelines in Oncology™: Cancer-related fatigue. v.1. 2016

癌因性疲憊的定義：NCCN, ICD-10

美國國家綜合癌症網絡[1] (National Comprehensive Cancer Network, NCCN)

與癌症或癌症治療相關而且和近期活動量不成比例的疲累感，

具有持續、令人感到不適、而**主觀**的特性，且足以**影響正常生活**

國際疾病分類第 10 版 (ICD-10)[2]

符合 A–D 四大要件

A. 症狀	B. 影響生活	C. 引起原因	D. 排除
最近一個月至少有**連續兩週**期間，每天或幾乎每天出現**至少六項 A1–A11 的症狀** (A1 為必需)。	疲累不堪的感覺會**干擾**到職場工作、家務處理、或人際互動。	病歷、身體檢查、或生化檢查有記錄顯示疲憊症狀為**癌症或癌症治療所引起**。	疲憊症狀**不是由精神共病**（如重度憂鬱症、身體化疾患、心身症、或譫妄）所引起。

1. NCCN. NCCN Clinical Practice Guidelines in Oncology: Cancer-Related Fatigue, Version 2.2017; 2017. https://www.nccn.org/professionals/physician_gls/PDF/fatigue.pdf
2. Yeh ET et al. BMC Cancer 2011; 11:387.

癌因性疲憊的定義:ICD-10

國際疾病分類第10版 (ICD-10)[1]

A

最近**一個月至少有連續兩週**期間，每天或幾乎每天出現**至少六項 A1-A11 的症狀**（A1 為必需）

ICD-10 Code:

R53.0

A1 感到**明顯的疲累、缺少活力**、或需要增加休息，且與近期活動程度不成比例

A2 感到**全身**虛弱、沉重

A3 感到很**難集中精神**或注意力

A4 感到平常習慣做的事都變得**乏味**而不想去做

A5 感到**難以入睡**、睡得不安穩、早起有困難、或是睡得太多

A6 感到**睡覺起來還是覺得疲累**，精神沒有恢復

A7 感到做什麼事情都必須經過一番掙扎，**勉強**自己去做

A8 因為疲累而感到**悲傷**、失意、或煩躁

A9 因為疲累不堪而事情做一半就**做不下去**了

A10 感到**記性變差**

A11 只要做了**費力的事**就會持續感到病懨懨、不舒服

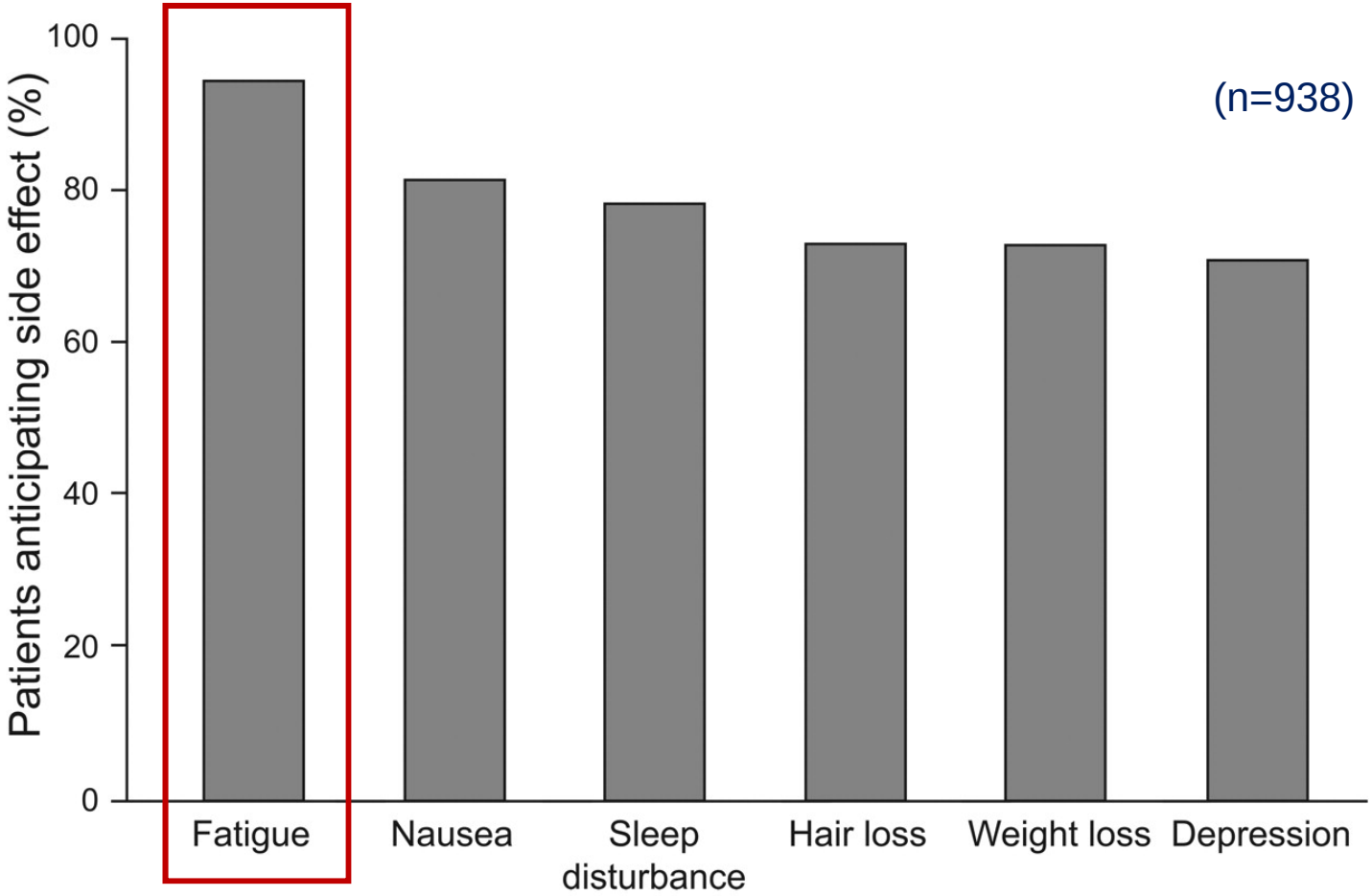
Yeh ET et al. BMC Cancer 2011; 11:387.

Cancer-Related Fatigue Is Prevalent

- 43% of cancer patients had little awareness that there were interventions to assess and treat their fatigue[1].
- That rate of fatigue as high as 90% have been reported for those undergoing treatment for various types of cancer[1].
- Reported incidence rates for CRF in the clinical trial setting tend to be in the range of 70%–80%[2].
- CRF may be an early symptom of malignant disease and is reported by as many as 40% of patients at diagnosis[3].

1.Psychosomatics 2008; 49:283–291. 3. Maarten Hofman et al. The Oncologist 2007;12:4-10.
2. Lawrence DP, Kupelnick B, Miller K et al. J Natl Cancer Inst Monogr 2004;(32):40–50.

95% of patients expect to experience fatigue during their treatment

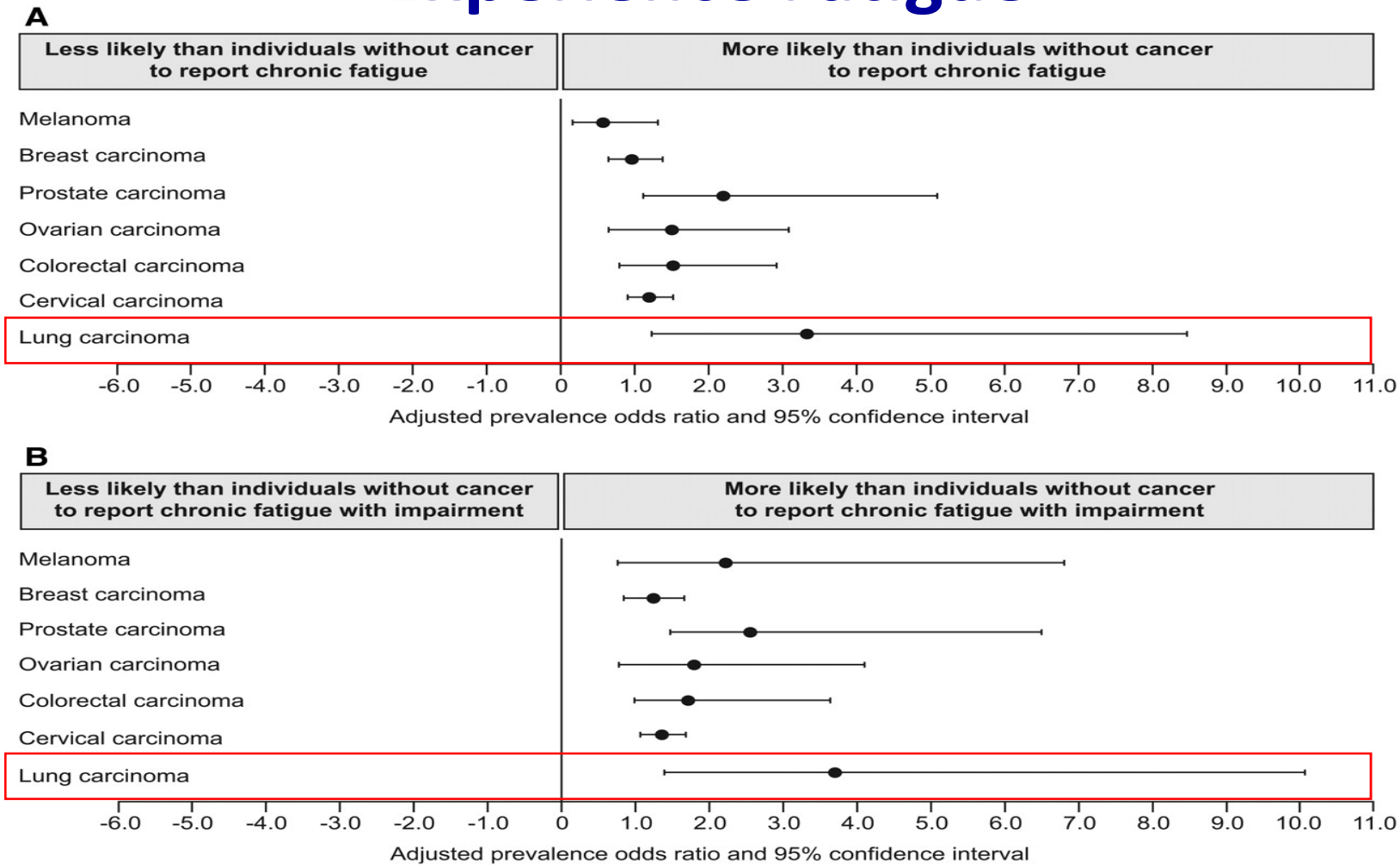


Side effects of treatment anticipated by patients scheduled to receive chemotherapy or radiotherapy.

Maarten Hofman et al. The Oncologist 2007;12:4-10

The Oncologist

Patients with a Variety of Cancers Experience Fatigue

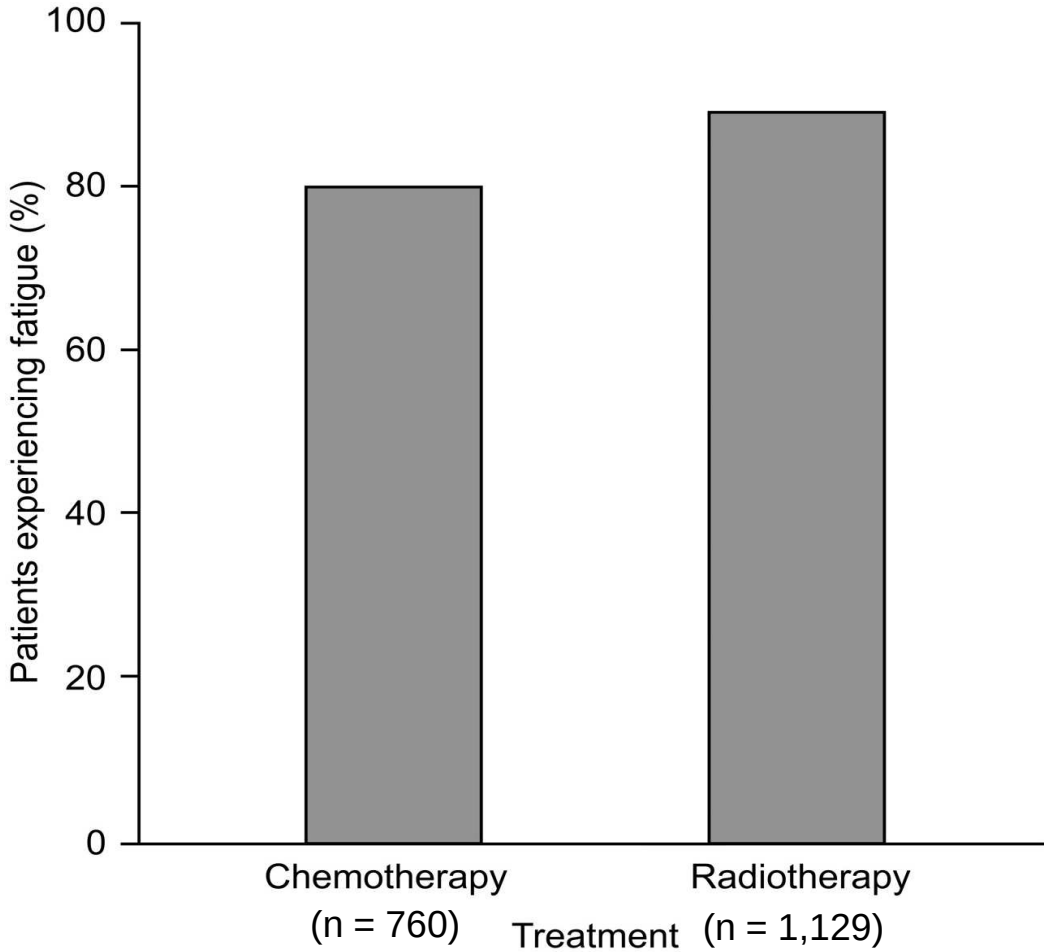


Likelihood of reporting chronic fatigue (A) and chronic fatigue with impairment (B) among patients with cancer listed in a Swedish national registry, compared with individuals without cancer

Maarten Hofman et al. The Oncologist 2007;12:4-10

The Oncologist

90% of patients treated with radiation and 80% of those treated with chemotherapy experience fatigue

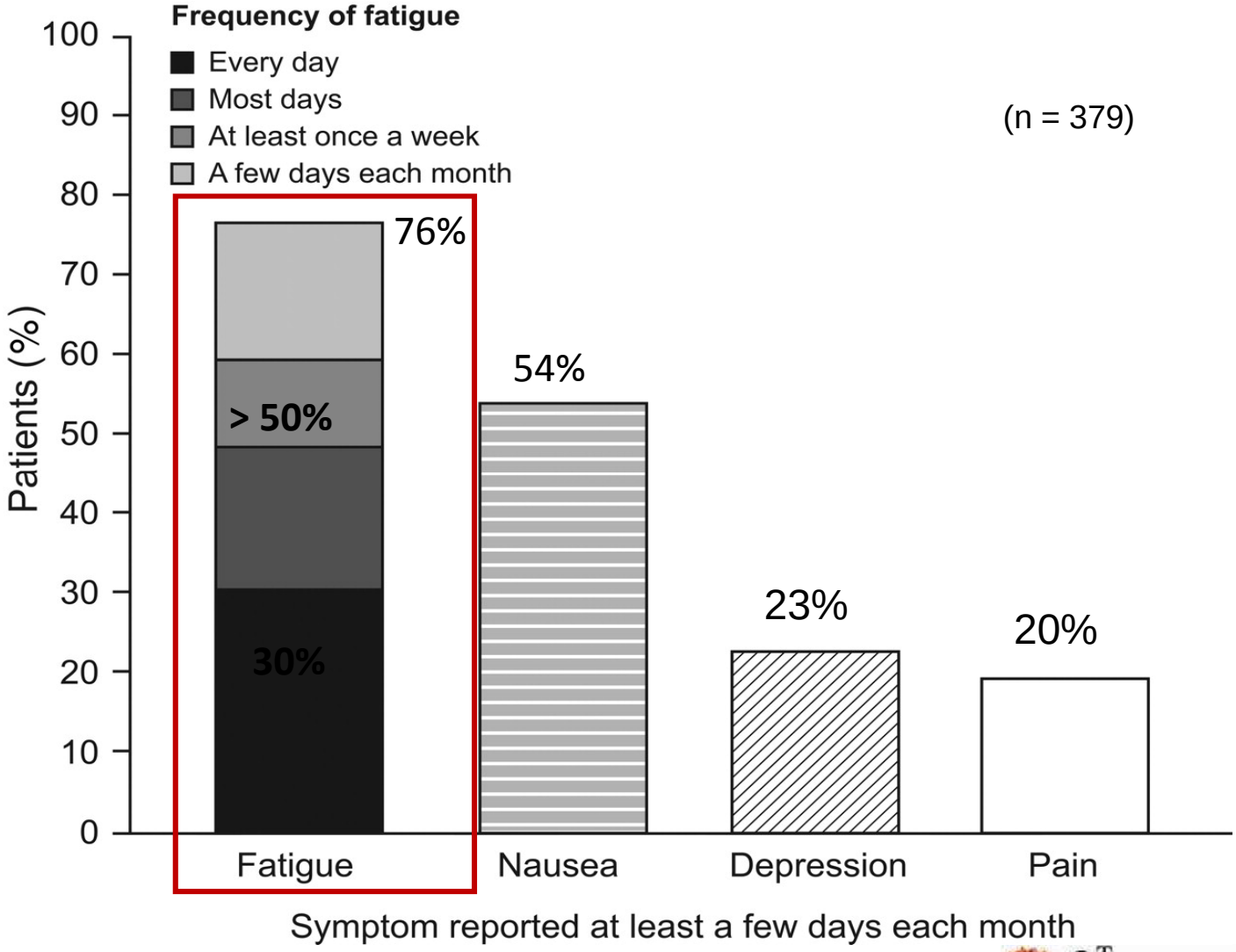


Prevalence of fatigue, measured using the Fatigue Symptom Inventory, in patients receiving radiotherapy (n = 1,129) or chemotherapy (n = 760) for cancer

Maarten Hofman et al. The Oncologist 2007;12:4-10

The Oncologist

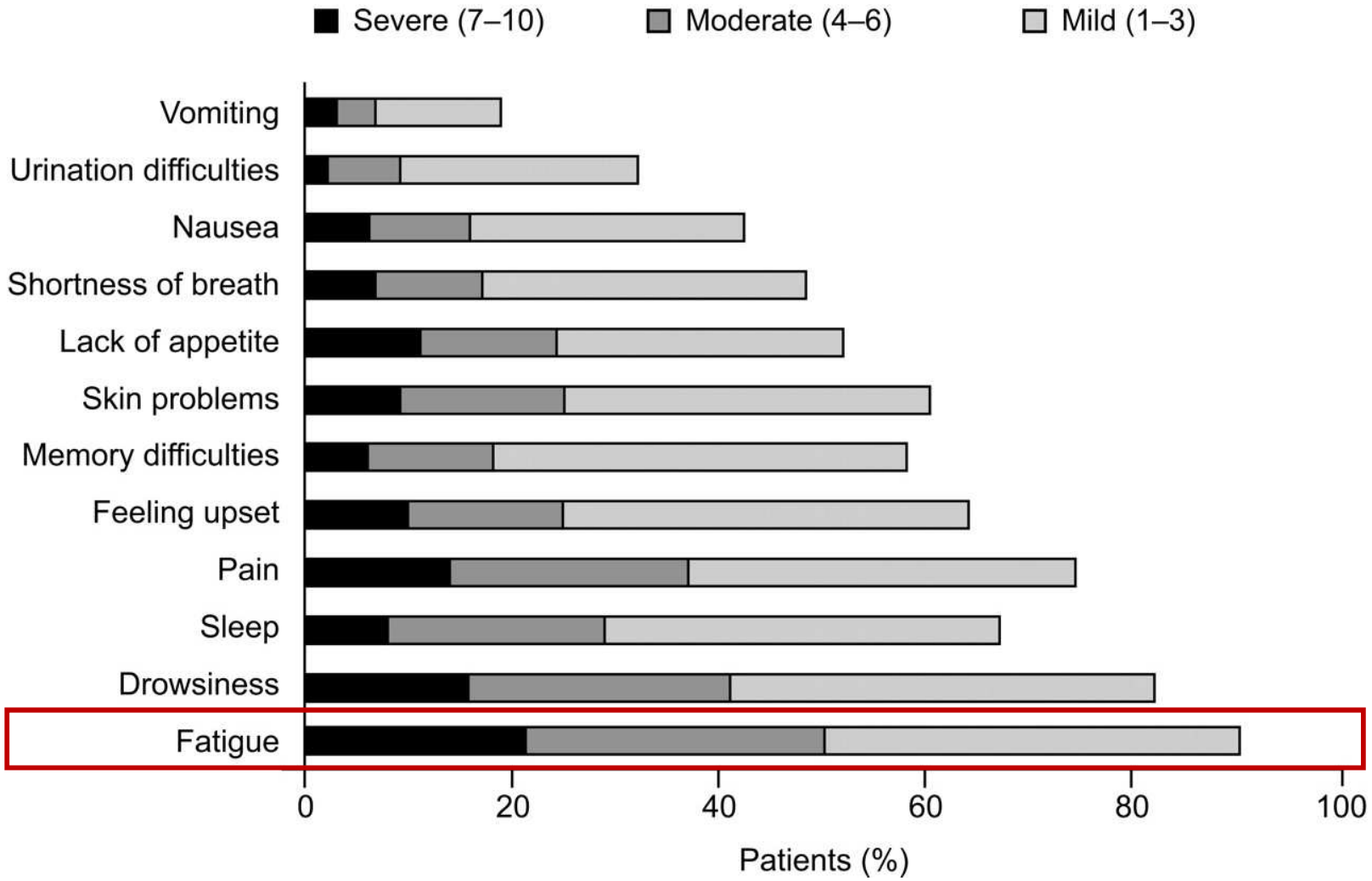
Frequency of side effects experienced by patients undergoing chemotherapy



Maarten Hofman et al. The Oncologist 2007;12:4-10

The Oncologist

Prevalence and intensity of side effects experienced by patients during radiotherapy



Maarten Hofman et al. The Oncologist 2007;12:4-10

The Oncologist

癌症本身
手術　化學治療
癌症病人
標靶治療　放射線治療
免疫治療

台灣大型流行病學調查*

92%
罹癌期間有疲憊問題[1]

其中有四分之一屬於中重度疲憊病人

癌因性疲憊症
(cancer-related fatigue, CRF)

疲憊量表分數 >3.5分

多符合 **ICD-10 的癌因性疲憊症標準**[1]

83.5%
曾使用改善疲憊的相關措施[1]

56.2%
的病人主動向醫護人員提及疲憊[1]

54.8%
的醫護人員提供改善疲憊措施[1]

高達 59-100% 的癌症病人表示疲憊感使其[2]：

- 身體活動能量降低
- 對事物的興趣低下
- 執行力下降

生活品質變差

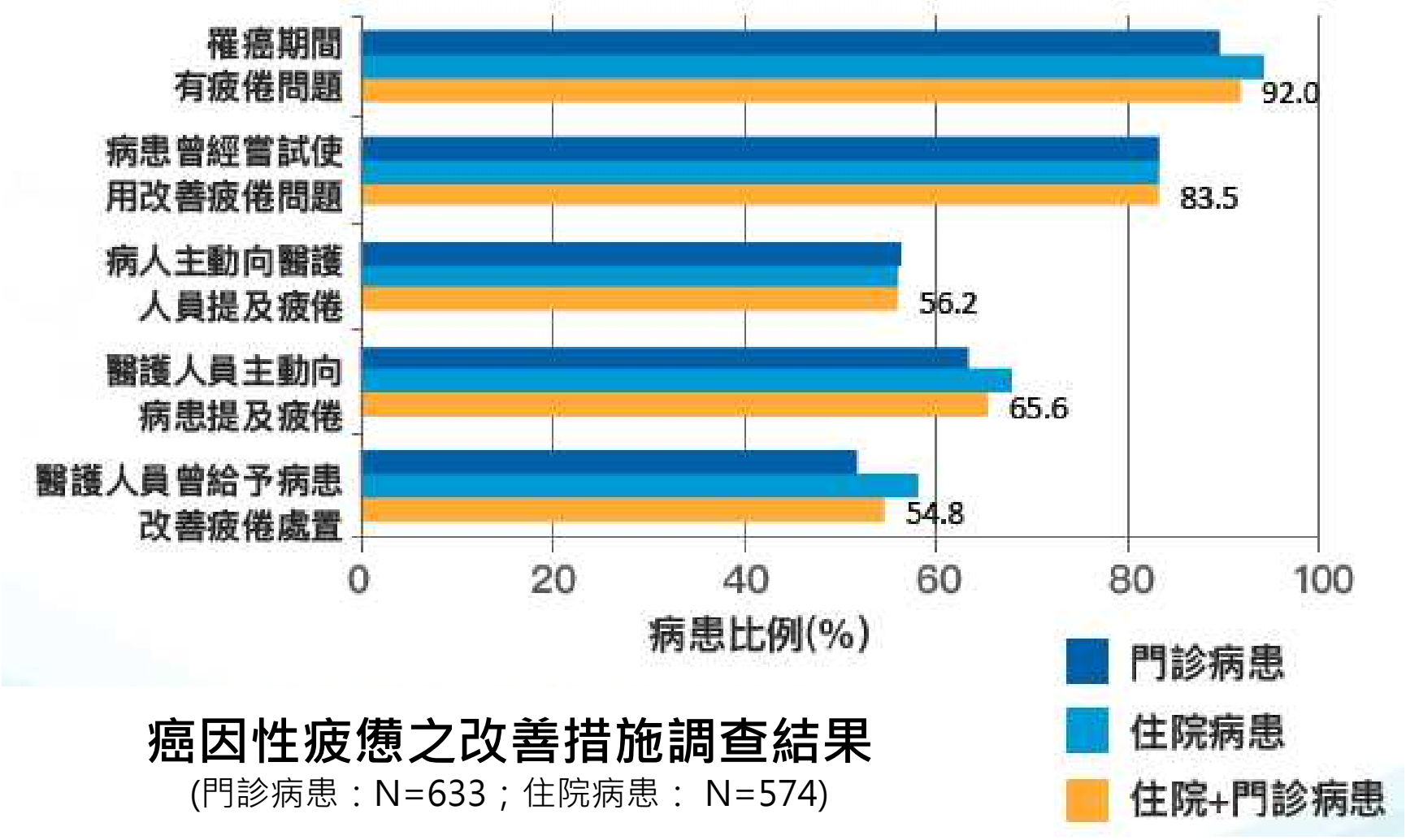
- 心理壓力增加
- 出現睡眠困擾

更換或調整原有工作項目

*調查期間為2015年2月至5月
共23家醫院進行研究
共1,207病患參與調查

1. Hsieh RK et al. J Clin Oncol 2015; 33(29_suppl):77.
2. De Waele S & Van Belle S. Acta Clin Belg 2010; 65:378-85.

92% 台灣癌症患者罹癌期間有疲憊問題，約一半癌症病患主動向醫護人員提及疲憊

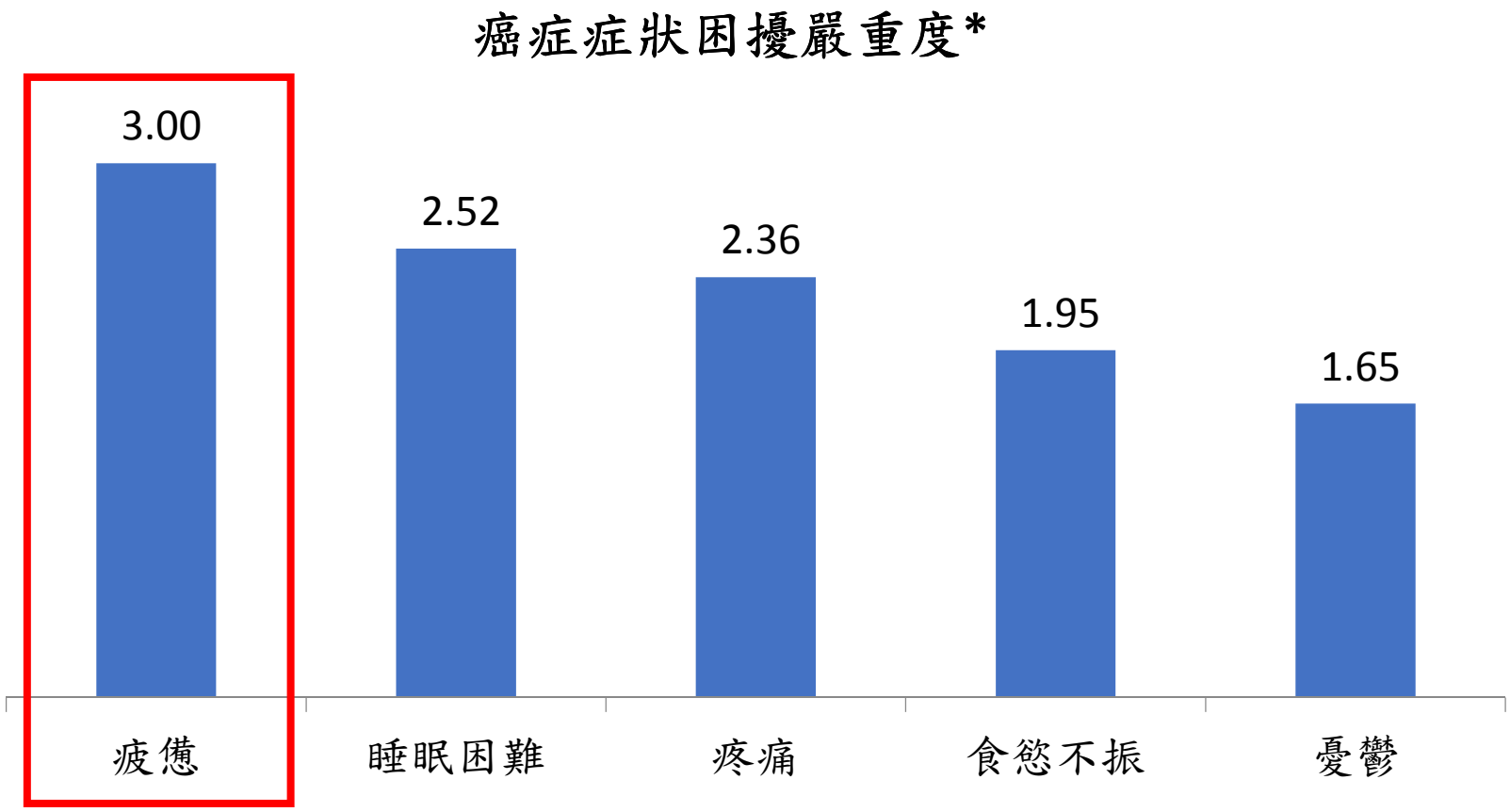


癌因性疲憊之改善措施調查結果

(門診病患：N=633；住院病患： N=574)

2015 Palliative Care in Oncology Symposium, Boston; Oct 9-10, 2015, Abstract # 155471. 2016 MASCC Poster # MASCC-0488.

疲憊：最嚴重的症狀困擾



*Symptom distress scale in patients with cancer: ranging from 0 to 10, the higher score means the higher distress.

2015 Palliative Care in Oncology Symposium, Boston; Oct 9-10, 2015, Abstract # 155471. 2016 MASCC Poster # MASCC-0488.

接受放射腫瘤治療中的病人有較高疲憊程度，受疲憊妨礙也較高

BFI-T	Overall (n=1207)		Accepting R/T (n=78)		Accepted R/T (n=423)	
	Mean	SD	Mean	SD	Mean	SD
Current Fatigue	3.45	2.64	4.23	2.50	3.55	2.56
General fatigue during the past 24 hours	3.47	2.52	4.08	2.30	3.62	2.49
Worst fatigue during the past 24 hours	4.60	3.06	5.39	2.88	4.77	3.03
Interference of fatigue	2.40	2.45	2.96	2.60	2.59	2.56
General Activity	2.54	2.86	3.23	2.97	2.81	3.00
Mood	2.50	2.71	2.47	2.78	2.62	2.76
Walking ability	2.34	2.84	2.89	2.95	2.54	2.98
Normal work (includes both work outside the home and daily chores)	2.58	3.17	3.33	3.82	2.81	3.36
Relations with other people	1.80	2.52	2.36	2.58	1.91	2.50
Enjoyment of life	2.67	3.09	3.45	3.46	2.86	3.19

2015 Palliative Care in Oncology Symposium, Boston; Oct 9-10, 2015, Abstract # 155471. 2016 MASCC Poster # MASCC-0488.

正在接受放射腫瘤治療的病人，生活品質影響較嚴重

FACT-G7	Total (N=1207)		Accepting R/T (n=78)		Accepted R/T (n=423)	
	Mean	SD	Mean	SD	Mean	SD
Quality of life [a]	**17.57**	6.01	**15.10**	6.45	**17.13**	6.19
Physical well-being [b]	**2.97**	0.91	**2.59**	1.01	**2.87**	0.95
1. I have a lack of energy (fatigue) [1]	2.70	1.18	**2.35**	1.23	2.60	1.23
2. I have pain[1]	2.88	1.22	2.42	1.35	2.73	1.29
3. I have nausea[1]	3.34	1.03	3.01	1.29	3.26	1.08
Emotional well-being [c]	**2.60**	1.36	**2.41**	1.52	**2.55**	1.40
4. I worry that my condition will get worse [2]	2.60	1.36	2.41	1.52	2.55	1.40
Functional well-being [d]	**2.02**	1.15	**1.64**	1.19	**1.99**	1.17
5. I am sleeping well [3]	2.01	1.31	**1.76**	1.34	1.97	1.32
6. I am able to enjoy life [3]	2.03	1.32	**1.56**	1.34	2.01	1.30
7. I am content with the quality of my life right now [3]	2.03	1.35	**1.59**	1.36	2.00	1.34

higher score means the higher quality of life

2015 Palliative Care in Oncology Symposium, Boston; Oct 9-10, 2015, Abstract # 155471. 2016 MASCC Poster # MASCC-0488.

病患可能陳述的「癌因性疲憊症」

- 動不動就感到四肢無力、懶洋洋、提不起勁
- 對什麼事都沒有興趣
- 注意力沒辦法集中
- 記憶力減退
- 變得暴躁易怒、焦躁或憂鬱
- 經常沈默不語
- 沒有食慾
- 虛弱到無法步行一小段路
- 處理家務都做不到……

Ref. 台灣癌症基金會 https://crf.canceraway.org.tw/page.asp?IDno=1

病患可能表現的「癌因性疲憊症」

- 主訴：沒有體力、身體沉重感、嗜睡等
- 語言：沉默、聲音小而低沉、反應慢
- 身體：活動減少、表情減少、呼吸短促等
- 情緒及行為：常臥床休息、動機降低、容易生氣、思考緩慢、易忘記或忽略事務、無法集中注意力、傷心流淚、無法自我照顧、無法享受任何樂趣等

癌因性疲憊症之臨床治療指引

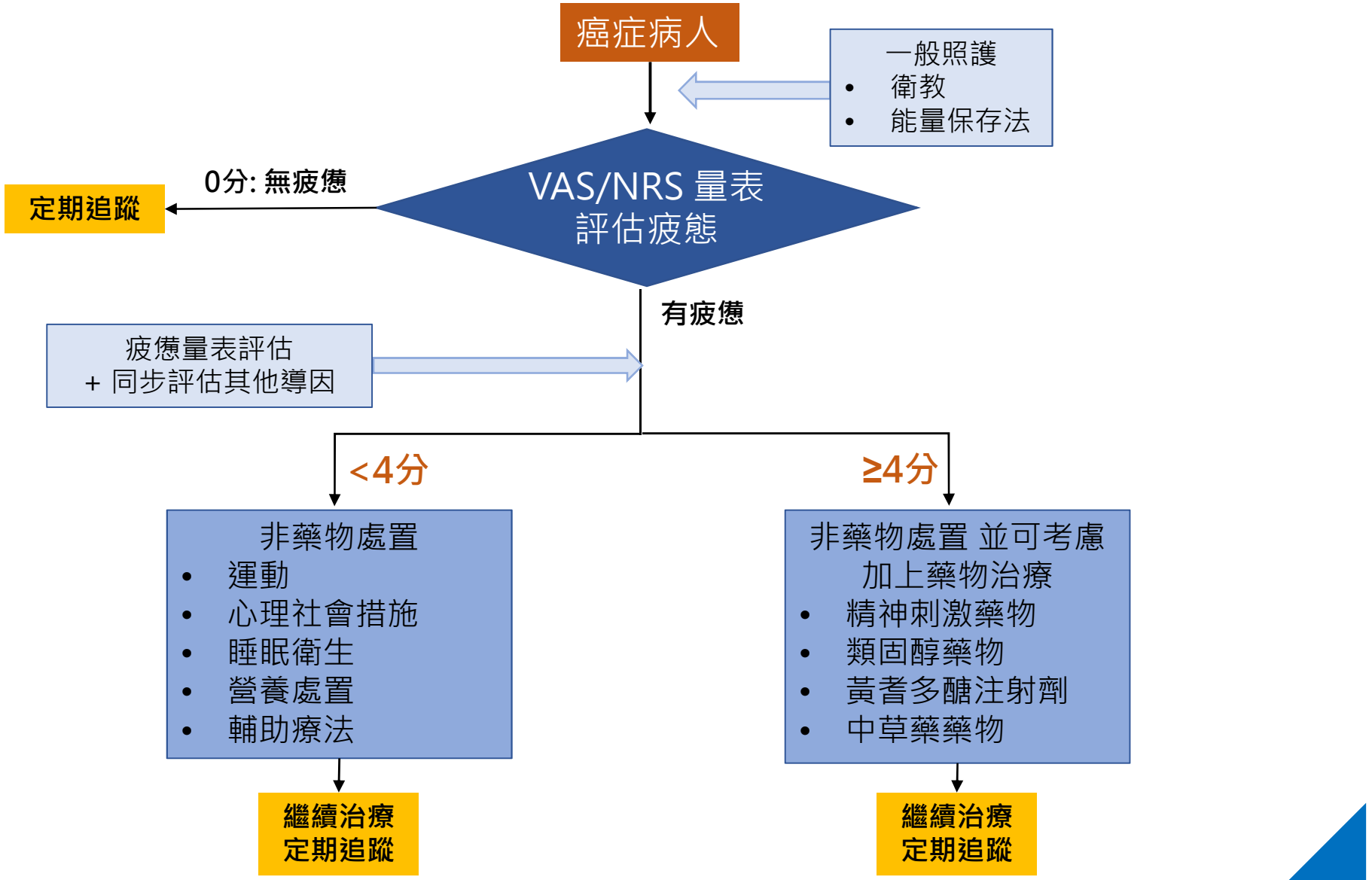
MANAGEMENT OF CANCER-RELATED FATIGUE – A GUIDELINE FOR TAIWAN –

2017年 11月 第一版

台灣癌症安寧緩和醫學會

台灣腫瘤護理學會

癌因性疲憊症的評估與處置流程



癌因性疲憊症的評估：NRS及VAS量表

數字等級量表 (Numerical Rating Scale, NRS) 及 視覺類比量表 (Visual Analogue Scale, VAS)

臨床驗證顯示 4 分以上的疲憊感即會影響正常生活，NCCN指引建議應特別關注這類病人[1]

1. NCCN. NCCN Clinical Practice Guidelines in Oncology: Cancer-Related Fatigue, Version 2.2017; 2017. https://www.nccn.org/professionals/physician_gls/PDF/fatigue.pdf

指引建議：癌因性疲憊症的評估與照護

Who?

癌症病人應規律評估，在初診即需做癌因性疲憊症評估

What?

持續規律評估、處置/治療、預防、及再評估

When?

住院病人可每日評估一次疲憊情形

門診病人於每次回診時接受疲憊評估

完成癌症治療療程者，也需追蹤其疲憊情形

How?

1. 一般衛教&能量保存法
2. 評估: VAS/NRS 疲憊量尺或疲憊量表
3. 治療:
   - 輕度疲憊(低於4分) → 非藥物處置
   - 中重度疲憊 (4 分或以上) → 考慮合併藥物治療
4. 病人可運用疲憊日誌評估和記錄自己的疲憊情形

癌因性疲憊症的治療原則

- 癌症病人**在診斷後均應接受疲憊相關評估**，以期能及早發現疲憊問題並了解可能的導因，再進行處置和改善。
- 一般處置建議**從非藥物治療開始**，但如果無法改善疲憊或緩和疲憊的惡化，且已處理或排除其他可能的導因，就**應考慮進行藥物治療**。

NCCN. NCCN Clinical Practice Guidelines in Oncology: Cancer-Related Fatigue, Version 2.2017; 2017. https://www.nccn.org/professionals/physician_gls/PDF/fatigue.pdf

癌因性疲憊評估與治療

以NRS或BFI-T
評估疲憊

<4分
輕度疲憊

非藥物治療
運動、營養飲食、
認知行為治療、
睡眠衛生等

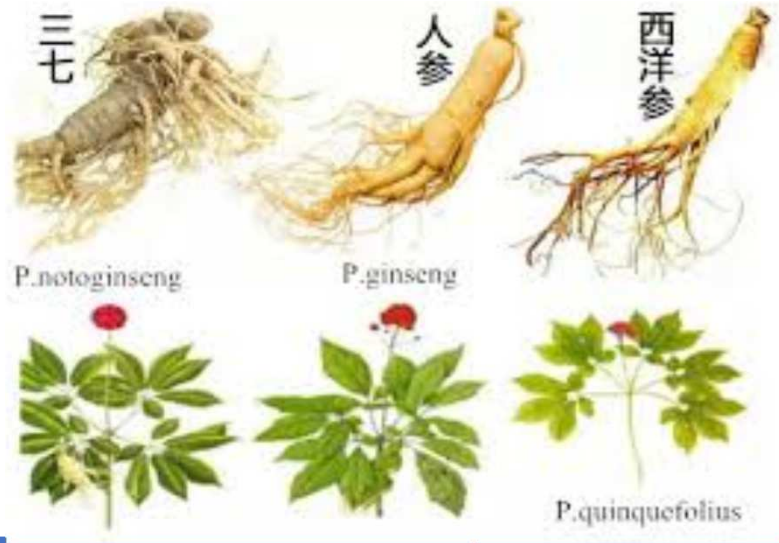
≥4分
中重度疲憊

加上藥物治療
- 癌因性疲憊適應症處方用藥
  PG2 Injection
- 其他用藥
  類固醇、中樞神經興奮劑

癌因性疲憊症之藥物治療

黃耆多醣注射劑有初步臨床試驗顯示可改善中重度癌因性疲憊症。 (Level IA, Grade A)	**蔘類**在臨床試驗顯示可以改善癌因性疲憊，但因中藥在使用上會因原料製備等影響，建議使用前應諮詢醫療團隊。 (Level IB, Grade B)
Methylphenidate 臨床研究顯示使用於疲憊程度或病情較嚴重的病人較具效果；但在用藥前應審慎考量劑量、用藥時間、濫用風險、及病人個人疾病等臨床情形，充分評估相關風險與效益。 (Level IA, Grade A)	**Methylprednisolone、dexamethasone**等類固醇藥物有臨床證據顯示可以改善癌症病人的疲憊和生活品質，但長期使用有安全風險，故建議只用於癌症末期、合併疲憊與厭食症、或有腦部或骨骼轉移而疼痛的癌症病人。 (Level IB, Grade B)

蔘類的類型、劑量、和療程非常關鍵



蔘類 (分為亞洲蔘和西洋蔘)

傳統功效

- 可補血補氣
- 有補氣救脫、益血復脈、養心安神等功效

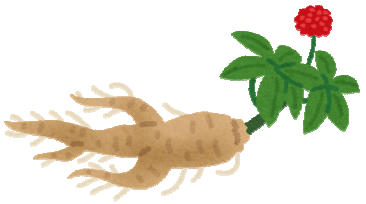
試驗簡介	每日平均治療劑量	療程	結果
Yennurajalingam et al., 2017[1] (n = 112)	亞洲蔘 (Panax ginseng) 800 mg	4週	疲憊較嚴重 、憂鬱傾向 、男性病人才明顯優於對照
Kim et al., 2017[2] (n = 438)	紅蔘 (蒸製並乾燥後的亞洲蔘) 2,000 mg	16週	顯著改善疲憊程度
Barton et al., 2010[3] (n = 290)	西洋蔘 (Panax quinquefolius) 750 mg、1,000 mg、2,000 mg	8週	1,000、2,000 mg組疲憊改善幅度優於其他組別
Barton et al., 2013[4] (n = 364)	西洋蔘 2,000 mg	8週	疲憊改善幅度優於對照組

1. Yennurajalingam S et al. J Natl Compr Canc Netw 2017; 15:1111-20.
2. Kim YH et al. J Clin Oncol 2017; 35(15_suppl):10008, Abstract 10008
3. Barton DL et al. Support Care Cancer 2010; 18:179-87.
4. Barton DL et al. J Natl Cancer Inst 2013; 105:1230-8.

使用蔘類應諮詢醫療團隊的專業建議

使用蔘類的關鍵可能在於[1]:

- **試驗使用含有至少3%人蔘皂苷的標準化粉末**
- **療程較長**
- 蔘類可能會**和抗凝血劑warfarin有交互作用**[2]
- 中草藥在使用上會因**原料形式、製備方法、或服用期間而影響療效**
- **使用前應先諮詢醫療團隊的專業建議，並依其指示服用**



1. Thomas GB et al. J Fam Pract 2014; 63:270-2.
2. Yuan CS et al. Ann Intern Med 2004; 141:23-7.

Bruera E

- **A Double-Blind, Randomized, Placebo-Controlled Trial of *Panax Ginseng* for Cancer-Related Fatigue in Patients With Advanced Cancer.**

Yennurajalingam S[1], Tannir NM[1], Williams JL[1], Lu Z[1], Hess KR[1], Frisbee-Hume S[1], House HL[1], Lim ZD[1], Lim KH[1,1], Lopez G[1], Reddy A[1], Azhar A[1], Wong A[1], Patel SM[1], Kuban DA[1], Kaseb AO[1], Cohen L[1], Bruera E[1].

- **Conclusions:**
- ***Panax Ginseng*** was

  not significantly superior to placebo after 4 weeks of treatment.
- There is NO justification to recommend the use of Panax Ginseng for CRF.

J Natl Compr Canc Netw. 2017 Sep;15(9):1111-1120

補氣藥之王：黃耆

《關於黃耆，你所不懂的》

鑑別	晉耆(紅皮耆)	北耆(白皮耆)
品種	多序岩黃耆	膜夾黃耆、蒙古黃耆
表皮	紅棕色	黃白色或黃褐色
甜味	甜味重	微甜
豆腥味	較淡或無	較重

資料提供：長庚紀念醫院中醫內兒科主治醫師王品涵

黃耆在中藥中被列為上藥，其功能為補氣升陽(增加元氣，提升能量)，益衛固表(提升免疫力)，利水消腫，托瘡生肌(肌肉增生)，為諸藥之長(中藥中的長老)，故名耆。

在各種類黃耆中，產地在蒙古北部的蒙古黃耆，又稱為北耆，所含的黃耆多醣效果最佳。

北耆 膜莢黃耆

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Zhou L et al. Sci Rep. (2017)

Astragalus polysaccharide restores autophagic flux and improves cardiomyocyte function in doxorubicin-induced cardiotoxicity.
Cao Y et al. Oncotarget. (2017)

Selenizing **astragalus** polysaccharide attenuates PCV2 replication promotion caused by oxidative stress through autophagy inhibition via PI3K/AKT activation.
Liu D et al. Int J Biol Macromol. (2018)

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1. Anti-tumor potential of **astragalus polysaccharides** on breast cancer cell line mediated by macrophage activation.
Li W, Song K, Wang S, Zhang C, Zhuang M, Wang Y, Liu T.
Mater Sci Eng C Mater Biol Appl. 2019 May;98:685-695. doi: 10.1016/j.msec.2019.01.025. Epub 2019 Jan 8.
PMID: 30813073

Wu et al. Cancer Cell Int (2017) 17:115
https://doi.org/10.1186/s12935-017-0487-6

Cancer Cell International

PRIMARY RESEARCH Open Access

Anticancer activity of *Astragalus* polysaccharide in human non-small cell lung cancer cells

Chao-Yan Wu[1], Yuan Ke[2], Yi-Fei Zeng[2], Ying-Wen Zhang[1] and Hai-Jun Yu[2*]

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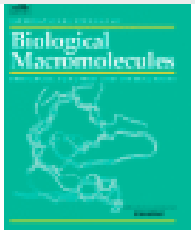
International Journal of Biological Macromolecules

Volume 106, January 2018, Pages 596-601

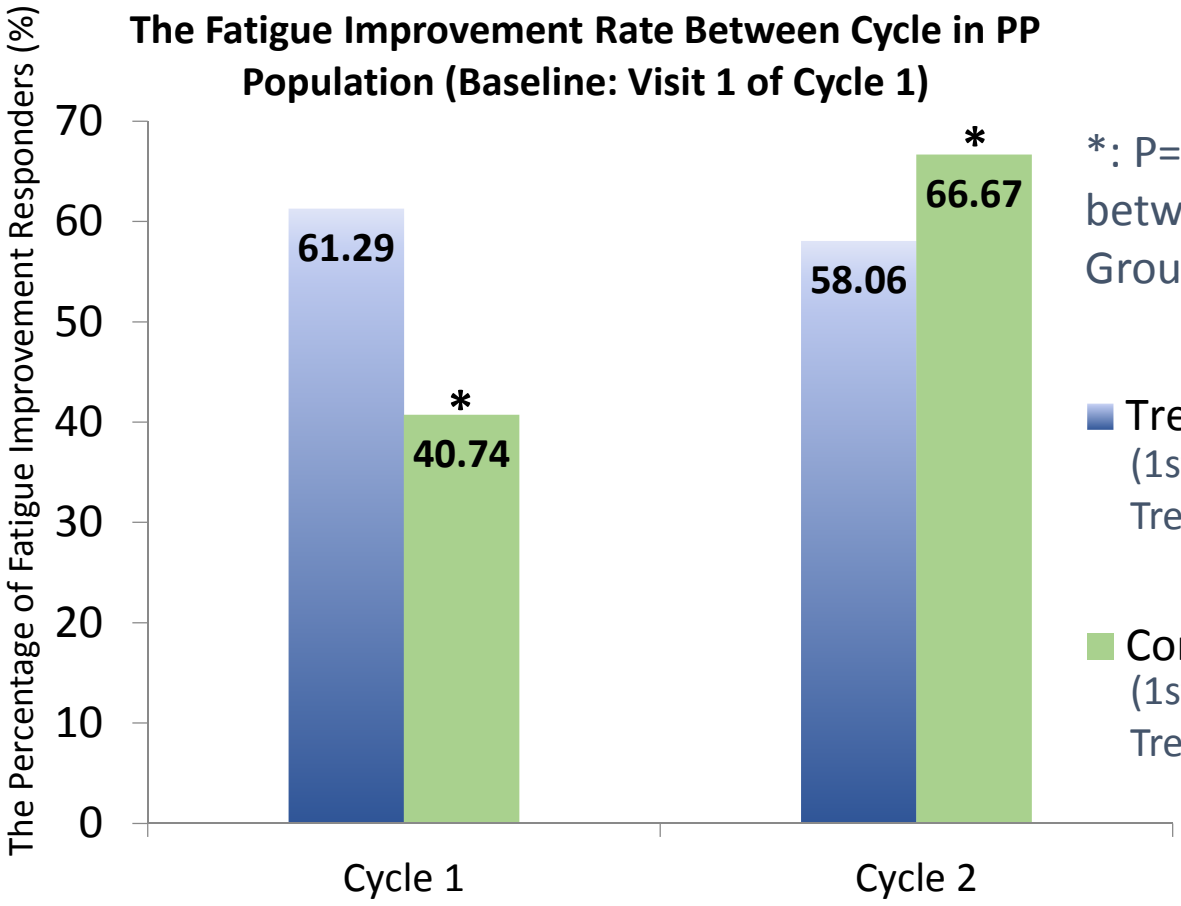


Immunomodulatory effects of herbal formula of astragalus polysaccharide (APS) and polysaccharopeptide (PSP) in mice with lung cancer

Xing Zhou [a], Zijing Liu [b], Tingting Long [a], Lijng Zhou [a], Yixi Bao [a]

黃耆多醣注射劑可有效改善疲憊

Phase II/III樞紐試驗



*: P=0.020 (The comparison between two cycles in the Control Group by McNemar's test)

Treatment Group
(1st and 2nd Cycle PG2 and PG2 Treatment; n=31)

Control Group
(1st and 2nd Cycle Placebo and PG2 Treatment; n=27)

- 改善幅度最大的BFI-T項目為行走能力和情緒
- 黃耆多醣注射劑組的不良反應發生率或嚴重程度未明顯高於安慰劑組
- 主要不良反應為輕微的皮疹、濕疹、或搔癢症，多不須額外處置即恢復

Chen HW et al. Clin Invest Med 2012; 35:E1-11.

cancers

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Article

Karnofsky Performance Status as A Predictive Factor for Cancer-Related Fatigue Treatment with Astragalus Polysaccharides (PG2) Injection—A Double Blind, Multi-Center, Randomized Phase IV Study

Cheng-Hsu Wang [1], Cheng-Yao Lin [2], Jen-Shi Chen [3,4], Ching-Liang Ho [5], Kun-Ming Rau [6,7,8], Jo-Ting Tsai [9,10], Cheng-Shyong Chang [11], Su-Peng Yeh [12], Chieh-Fang Cheng [13] and Yuen-Liang Lai [14,15,*]

Received: 22 October 2018; Accepted: 15 January 2019; Published: 22 January 2019

check for updates

Cancers **2019**, *11*, 128; doi:10.3390/cancers11020128

www.mdpi.com/journal/cancers

Multivariate analysis for responders and non-responders to PG2

- Patients with **higher KPS** responded **better to PG2**.
- Identified **KPS as a promising predictive factor** for the therapeutic efficacy of PG2.

Table 3. Multivariate analysis for responders and non-responders to Astragalus Polysaccharides (PG2) injection.

All Subjects	Cut-off Points = 10%			Multivariate Analysis	
Variable/Status	**Responder (*N* = 140)**	**Non-Responder (*N* = 74)**	**Univariate Analysis *p*-value ***	**Odds Ratio (95% CI)**	***p*-value ****
Baseline KPS score					
30–50	22 (15.71%)	31 (41.89%)	<0.0001 [C]	0.253 (0.126, 0.504)	<0.0001
60–90	118 (84.29%)	43 (58.11%)			
4–6	72 (51.43%)	41 (55.41%)	0.5794 [C]	0.885 (0.475, 1.647)	0.6998
7–10	68 (48.57%)	33 (44.59%)			
Cancer Type: three categories					
Lung cancer	22 (15.71%)	12 (16.22%)	0.2876 [C]		
Breast cancer	22 (15.71%)	6 (8.11%)		1.297 (0.343, 4.905)	0.7020
other	96 (68.57%)	56 (75.68%)		0.957 (0.414, 2.208)	0.9173
Albumin (g/dL)					
<3.0	20 (14.29%)	11 (14.86%)	0.9088 [C]	1.272 (0.518, 3.124)	0.5997
≥3.0	120 (85.71%)	63 (85.14%)			
Hemoglobin (g/dL)					
<10	48 (34.29%)	30 (40.54%)	0.3659 [C]	0.767 (0.405, 1.452)	0.4148
≥10	92 (65.71%)	44 (59.46%)			
Peripheral blood TLC (/μL)					
<700	46 (32.86%)	18 (24.32%)	0.1947 [C]	1.709 (0.846, 3.452)	0.1353
≥700	94 (67.14%)	56 (75.68%)			

* The Wilcoxon rank-sum test [W] was used to compare the difference between responders and non-responders for continuous variables; the Chi-squared test [C] was used to compare the difference between responders and non-responders for categorical variables. ** A logistic regression model was used to compare the differences between responders and non-responders.

Baseline KPS score	Responder %
30-50 (N=53)	22 (42%)
60-90 (N=161)	118 (73%)

Cancers 2019, 11, 128; doi:10.3390/cancers11020128

Summary of PG2® Phase IV Study

- **Fatigue improvement**

✓ PG2® treatment showed efficacy in relieving fatigue as early as the first week of treatment.

✓ Clinically meaningful fatigue improvement (≥ 10%) was observed in more than 65% of subjects receiving PG2® after the cycle 1 treatment when compared to baseline.

✓ Patients with higher KPS showed better chance to respond to PG2 treatment in BFI-T score.

2018 ASCO Annual Meeting, Poster Presentation

Clinical Experiences in CRF Treatment

Case sharing

~5 slides

…..touching cancer and aids patients through people caring

Cancer-related Fatigue Assessment & Management

癌因性疲憊症規律評估

2018-10-15

台灣癌症安寧緩和醫學會
Taiwan Society of Cancer Palliative Medicine

癌因性疲憊症日記

2017年台灣癌症安寧緩和醫學會與台灣腫瘤護理學會共同制定並發行『癌因性疲憊症之臨床治療指引』提高對此之關注，並做為臨床醫護人員治療時之使用參考。2018年台灣癌症安寧緩和醫學會發展『疲憊日誌』，提供給癌症病人了解癌因性疲憊症及評估紀錄疲憊分數的工具，希望結合病人及臨床醫護人員的投入，一起共同增進癌症治療照護的品質。

問：什麼是癌因性疲憊症？

答：癌因性疲憊症 (Cancer-related fatigue, CRF)是指因癌症或癌症治療所引起的主觀且長時間感到難以遏止的精疲力竭。身、心、靈持續缺乏能量，而造成情緒、認知及體能的負擔，並影響日常生活。癌症病人的疲憊與活動量沒有直接的關係，且無法透過休息獲得緩解。

問：『疲憊日誌』要如何填寫使用？

答：疲憊、缺乏活動力、注意力不集中、失眠或嗜睡、食慾不振、憂鬱、對生活及人與人相處缺乏興趣等，都是癌因性疲憊症常見的症狀。您可利用手冊中的「疲憊量尺」選出最符合您當下疲憊感受的分數，每天規律的評估，寫下您的疲憊分數和處置方法在『疲憊日誌』中，並即時向醫護人員反應和討論您的疲憊狀況。

問：『疲憊日誌』可以幫助我什麼呢？

答：疲憊時容易產生負面想法，對於疾病治療感到無力，或想放棄治療。藉由『疲憊日誌』評估和紀錄您的疲憊分數，及時主動向醫護人員反應，協助您與醫護人員更有效的溝通，也讓醫護團隊了解您的疲憊，根據您的疲憊狀況，提供最適合的治療方式，讓您的疲憊獲得改善和治療，以避免因疲憊造成療程延遲或中斷，影響治療成效。

附件下載

- 6周記錄表- 疲憊日誌
- 完整版-疲憊日誌

癌因性疲憊症規律評估

3 疲憊量尺

0 1 2 3 4 5 6 7 8 9 10

以0分為沒有疲憊，10分為想像中最嚴重的疲憊，請您根據自身疲憊的感覺指出對應的疲憊分數。或選擇最能代表您疲備狀態的圖像及其對應的分數。

疲憊日誌

每天規律的評估、記錄疲憊分數或處置方法，這些資料有助您的醫療團隊更有效的提供處置方案。

		非藥物處置	藥物處置
日期		□運動 □睡眠衛生 □輔助治療 □心理社會措施 □營養處置 □其他____	□精神刺激藥物 □類固醇 □黃耆多醣注射劑 □中草藥藥物 □其他____
疲憊分數			
日期		□運動 □睡眠衛生 □輔助治療 □心理社會措施 □營養處置 □其他____	□精神刺激藥物 □類固醇 □黃耆多醣注射劑 □中草藥藥物 □其他____
疲憊分數			

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疲憊分數			

♥ 貼心小叮嚀 ♥

遵照醫護人員的指示，配合治療方式調整生活，按時複診，如果藥物的幫助不大，或是有副作用，請告訴醫護人員。請記住，您的疲憊是可以緩解的！

以疲憊量尺規律評估疲憊程度

3 疲憊量尺

以0分為沒有疲憊，10分為想像中最嚴重的疲憊，請您根據自身疲憊的感覺指出對應的疲憊分數。或選擇最能代表您疲備狀態的圖像及其對應的分數。

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疲憊分數			
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♥ 貼心小叮嚀 ♥

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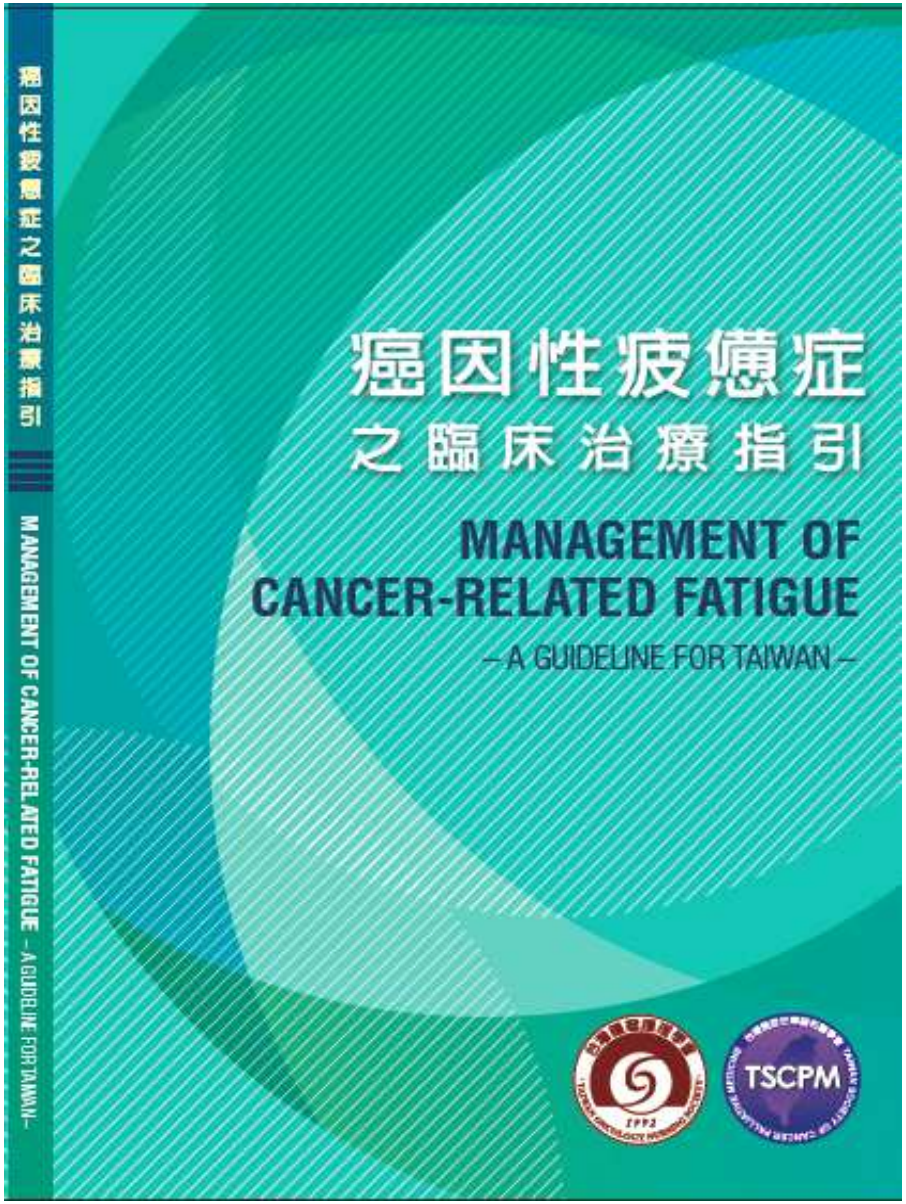

癌因性疲憊症之臨床治療指引電子版
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