Radiochemioterapia chorych na niedrobnokomórkowego raka płuca w podeszłym wieku

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Leczenie raka płuca u chorych w podeszłym wieku

Treatment of lung cancer in the elderly patients

Wiek 65 lat jest punktem
odcięcia dla starszej populacji zgodnie z danymi epidemiologicznymi, zgodnie z kryteriami włączenia do badań klinicznych jest nim wiek powyżej 70 lat

Gerontol. Pol. 2012; 20, 3: 81–90

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Na podstawie analizy badań klinicznych prowadzonych w latach 1995–2002 można stwierdzić, że istnieje duża rozbieżność między odsetkiem procentowym starszych pacjentów w całkowitej populacji a odsetkiem procentowym chorych w starszym wieku w badaniach klinicznych dotyczących raka płuca (67% *v.* 35%)

Gerontol. Pol. 2012; 20, 3: 81–90

Improved Survival in Stage III Non-Small-Cell Lung Cancer: Seven-Year Follow-up of Cancer and Leukemia Group B (CALGB) 8433 Trial

*Robert O. Dillman, James Herndon, Stephen L. Seagren, Walter L. Eaton, Jr., Mark R. Green**

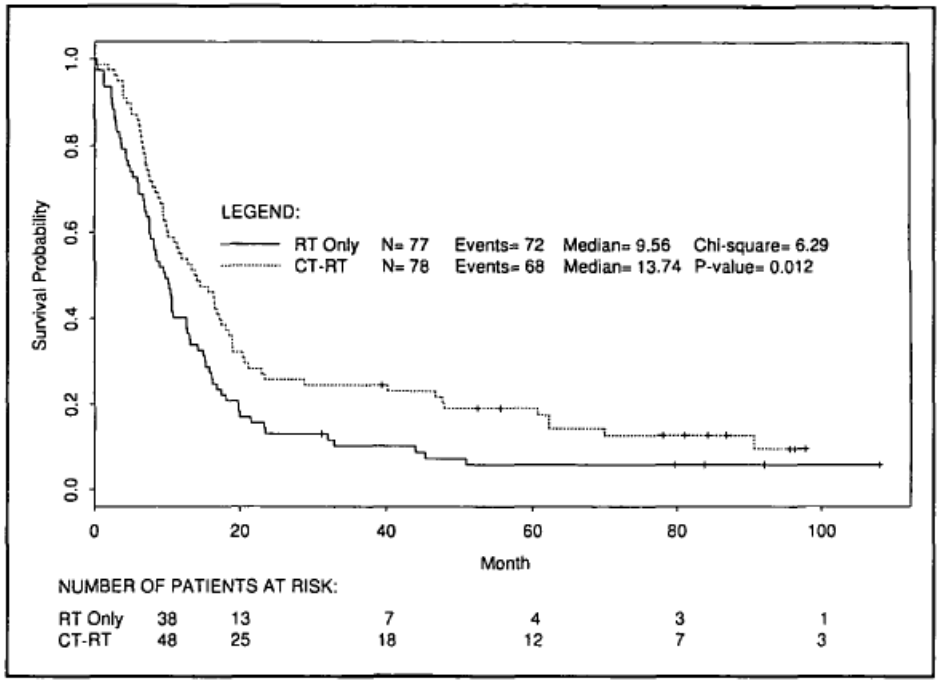


Fig. 1. Overall survival of patients with stage III non-small-cell lung cancer after sequential chemotherapy–radiation therapy (CT-RT) compared with that of patients after radiation therapy alone (RT only). *P* value was two-sided.

Sekwencyjna CT-RT
vs.
RT

J Natl Cancer Inst 1996;88:1210-5

Improved Survival in Stage III Non-Small-Cell Lung Cancer: Seven-Year Follow-up of Cancer and Leukemia Group B (CALGB) 8433 Trial

*Robert O. Dillman, James Herndon, Stephen L. Seagren, Walter L. Eaton, Jr., Mark R. Green**

Table 1. Characteristics of the Patients.

Characteristic	Group 1 (N = 78)	Group 2 (N = 77)	All Patients (N = 155)	P Value
		number (percent)		
Sex				
Male	59 (76)	58 (75)	116 (75)	0.96
Female	19 (24)	19 (25)	39 (25)	
Age (yr)*				
<60	35 (45)	32 (42)	67 (43)	0.68
≥60	43 (55)	45 (58)	88 (57)	

Sequential vs Concurrent Chemoradiation for Stage III Non–Small Cell Lung Cancer: Randomized Phase III Trial RTOG 9410

Walter J. Curran Jr, Rebecca Paulus, Corey J. Langer, Ritsuko Komaki, Jin S. Lee, Stephen Hauser, Benjamin Movsas, Todd Wasserman, Seth A. Rosenthal, Elizabeth Gore, Mitchell Machtay, William Sause, James D. Cox

Manuscript received June 14, 2010; revised July 22, 2011; accepted July 26, 2011.

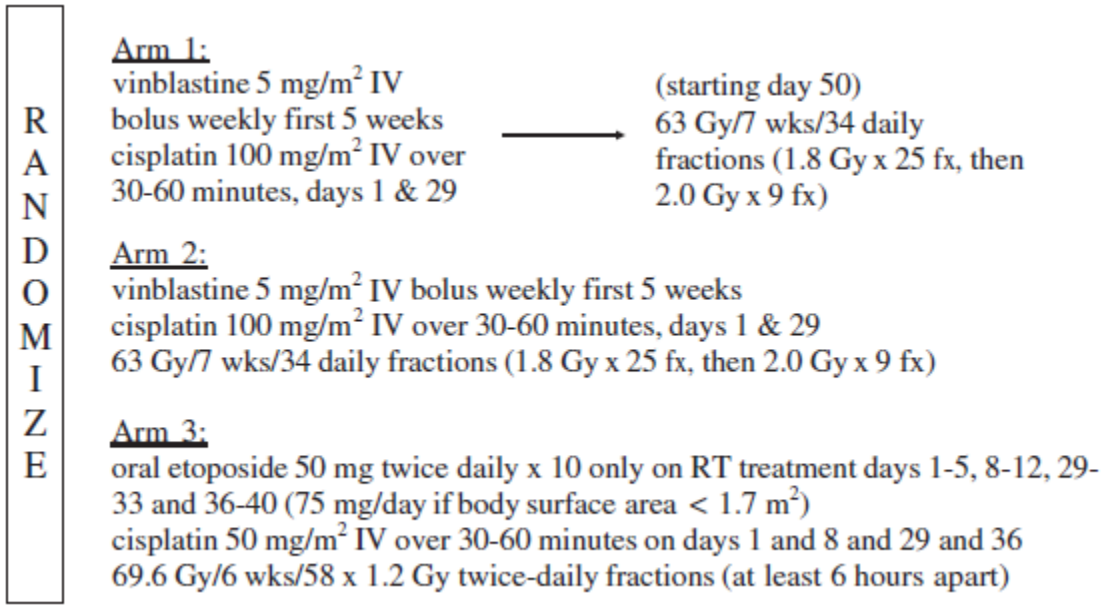
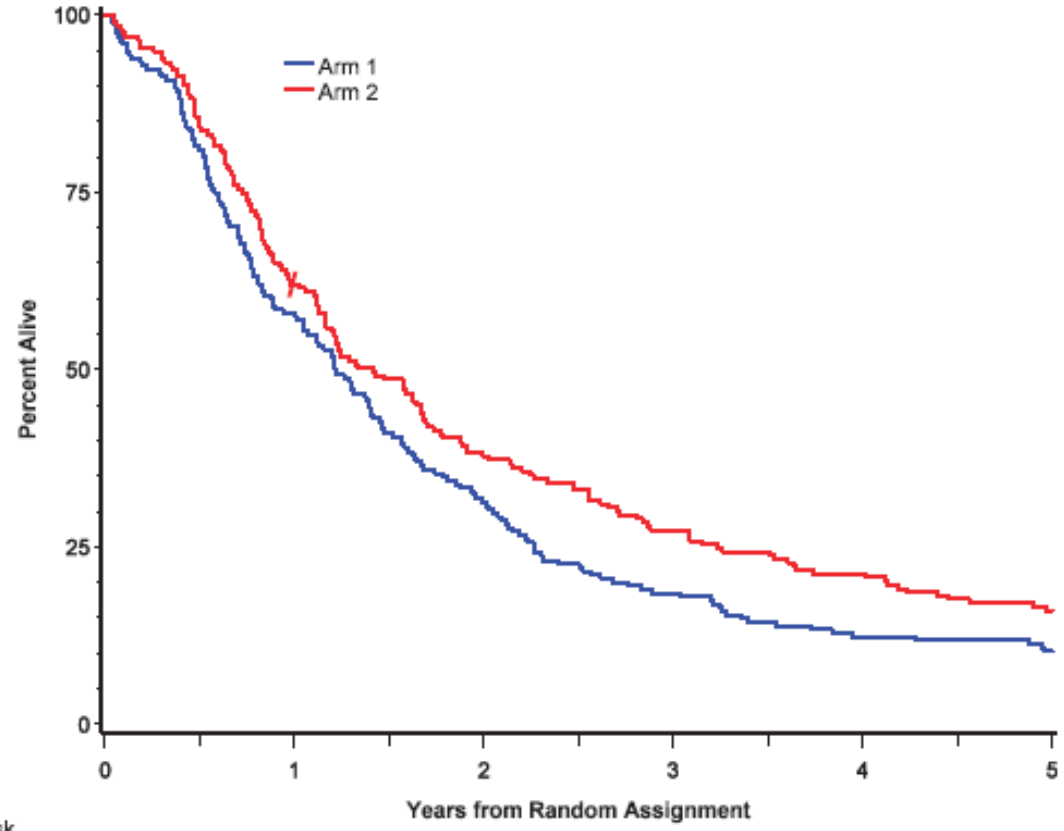
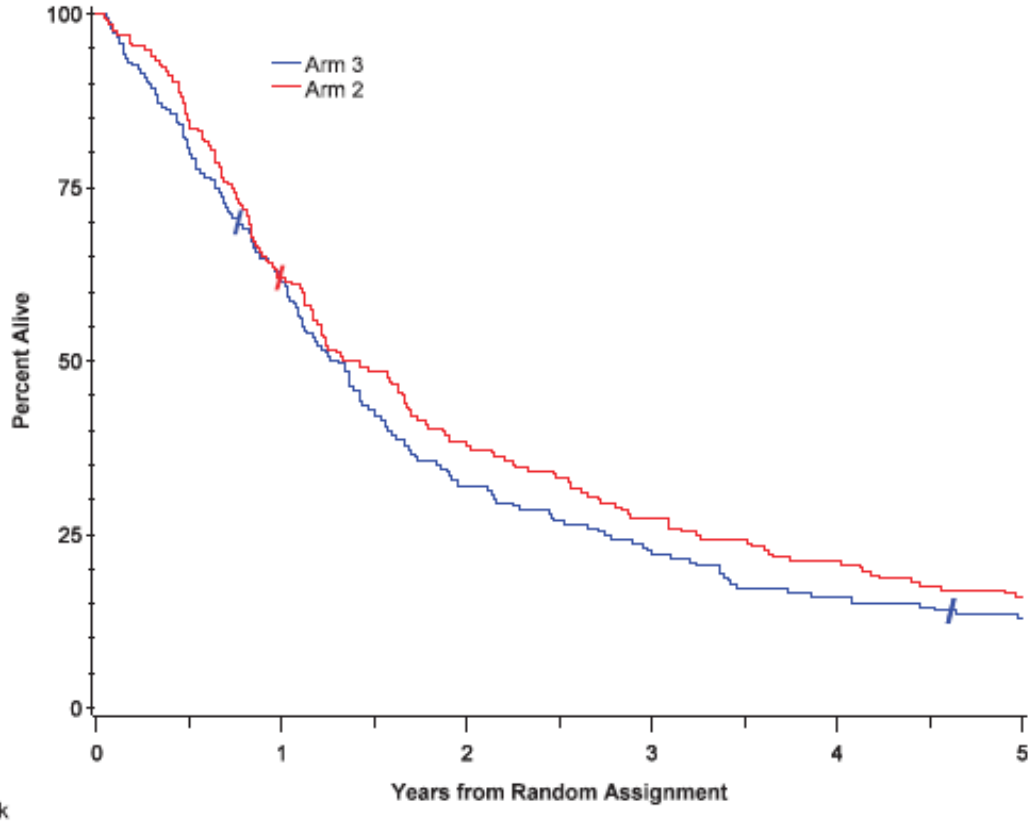


Table 1. Demographics of enrolled patients*

Patient characteristic	Arm 1 (n = 195)	Arm 2 (n = 195)	Arm 3 (n = 187)	Total (n = 577)
Age, No. (%)				
<60,y	82 (42)	90 (46)	72 (39)	244 (42)
≥60,y	113 (58)	105 (54)	115 (62)	333 (58)
Median	63	60	63	62
Range	33–79	33–79	35–80	33–80

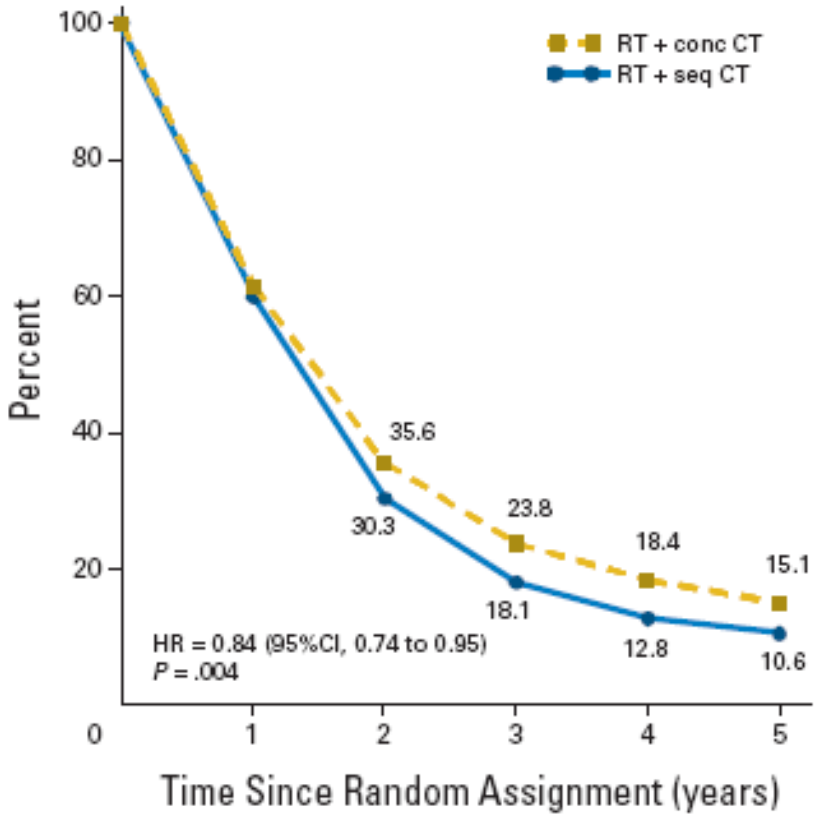


Patients at Risk						
Arm 1	195	113	61	36	24	20
Arm 2	195	120	73	53	41	31



Patients at Risk						
Arm 3	187	114	59	41	30	22
Arm 2	195	120	73	53	41	31

RT-CT jednoczasowa vs. sekwencyjna



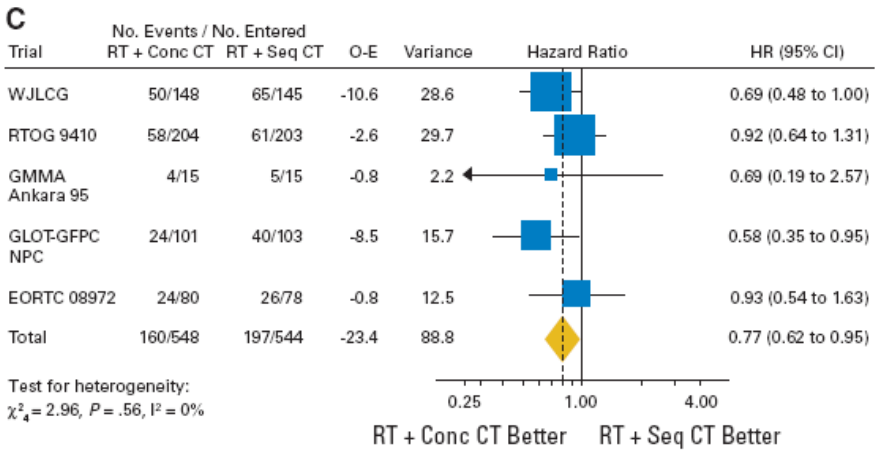
3 lata: 23.8% vs. 18.1% (+5.7%)

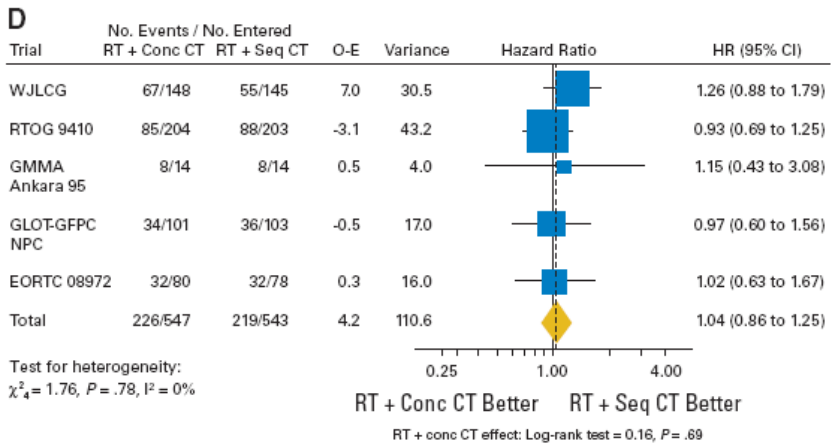
5 lat: 15.1% vs. 10.6% (+4.5%)

Przeżycia całkowite

Auperin A i wsp. J Clin Oncol 2010, 28: 2181-2190

RT-CT jednoczasowa vs. sekwencyjna





Wyleczenia miejscowe i węzłowe (LRC)

Przeżycia bez przerzutów (MFS)

Auperin A i wsp. J Clin Oncol 2010, 28: 2181-2190

RT-CT jednoczasowa vs. sekwencyjna ograniczenia

- Gorsza tolerancja leczenia jednoczasowego (przełyk, płuca, odczyny hematologiczne)
- Schorzenia współistniejące: tylko ok. 30%-50% chorych kwalifikuje się do leczenia jednoczasowego
- Podobna efektywność leczenia sekwencyjnego i jednoczasowego w zakresie redukcji ryzyka przerzutów odległych (najczęstsza przyczyna niepowodzeń)
- Użycie pól elektywnych, przestarzałe techniki RT

Hyperfractionated or Accelerated Radiotherapy in Lung Cancer: An Individual Patient Data Meta-Analysis

Audrey Mauguen, Cécile Le Péchoux, Michele J. Saunders, Steven E. Schild, Andrew T. Turrisi, Michael Baumann, William T. Sause, David Ball, Chandra P. Belani, James A. Bonner, Aleksander Zajusz, Suzanne E. Dahlberg, Matthew Nankivell, Sumithra J. Mandrekar, Rebecca Paulus, Katarzyna Behrendt, Rainer Koch, James F. Bishop, Stanley Dische, Rodrigo Arriagada, Dirk De Ruysscher, and Jean-Pierre Pignon

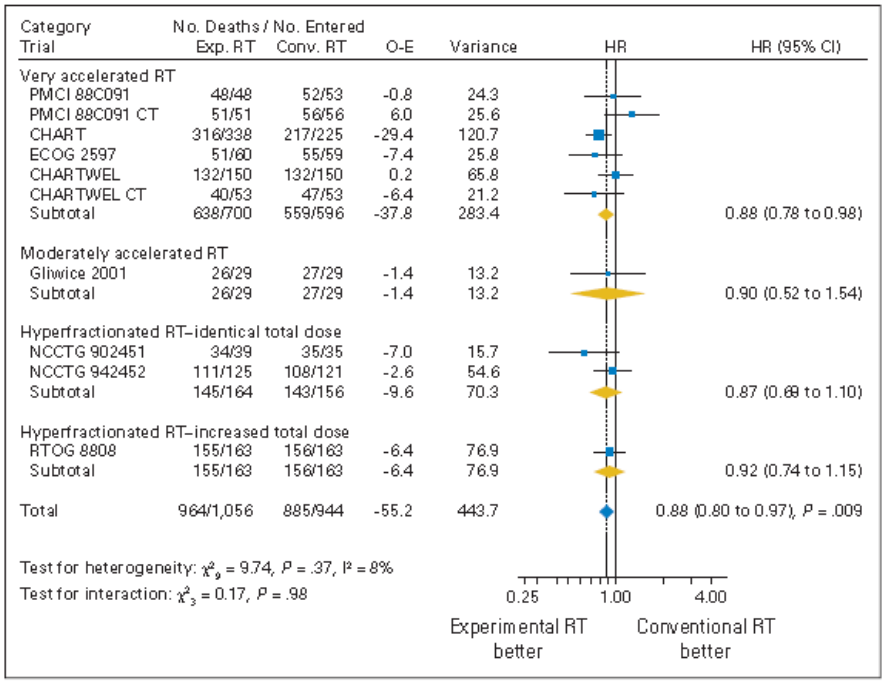
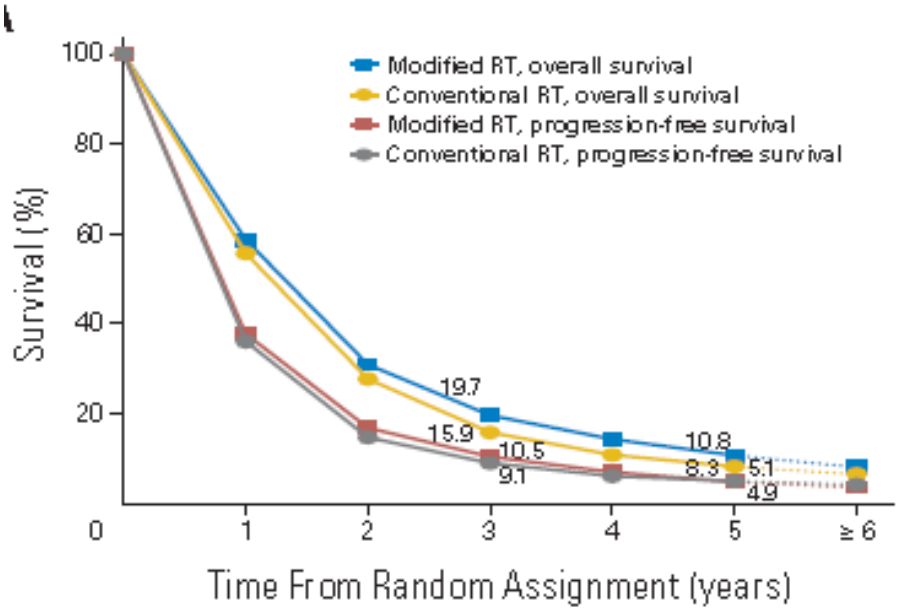
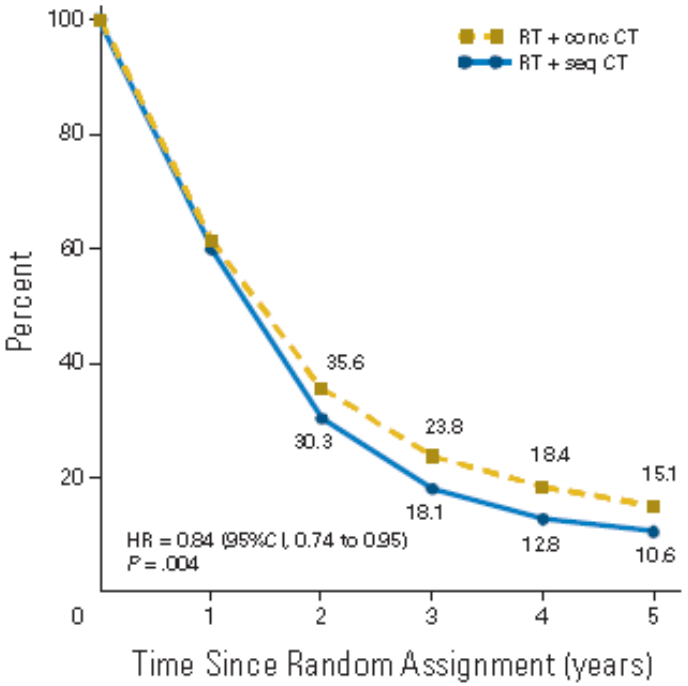


Fig 2. Effect of modified radiotherapy (RT) versus conventional RT on overall survival, by RT types in non–small-cell lung cancer trials. Each trial is represented by a blue square, the center of which denotes the hazard ratio (HR) for that trial comparison, with the horizontal lines showing the 95% CIs. The size of the square is directly proportional to the amount of information contributed by the trial. The gold diamonds represent pooled HRs for the trial groups and the blue diamond the overall HRs, with the center denoting the HR and the extremities the 95% CI. The fixed effect model was used. CHART, Continuous Hyperfractionated Accelerated Radiation Therapy; CHARTWEL, CHART Week-End Less; CT, chemotherapy; Conv., conventional; ECOG, Eastern Cooperative Oncology Group; Exp., experimental; NCCTG, North Central Cancer Treatment Group; O-E, observed-expected; PCMI, Peter MacCallum Institute; RTOG, Radiation Therapy Oncology Group.

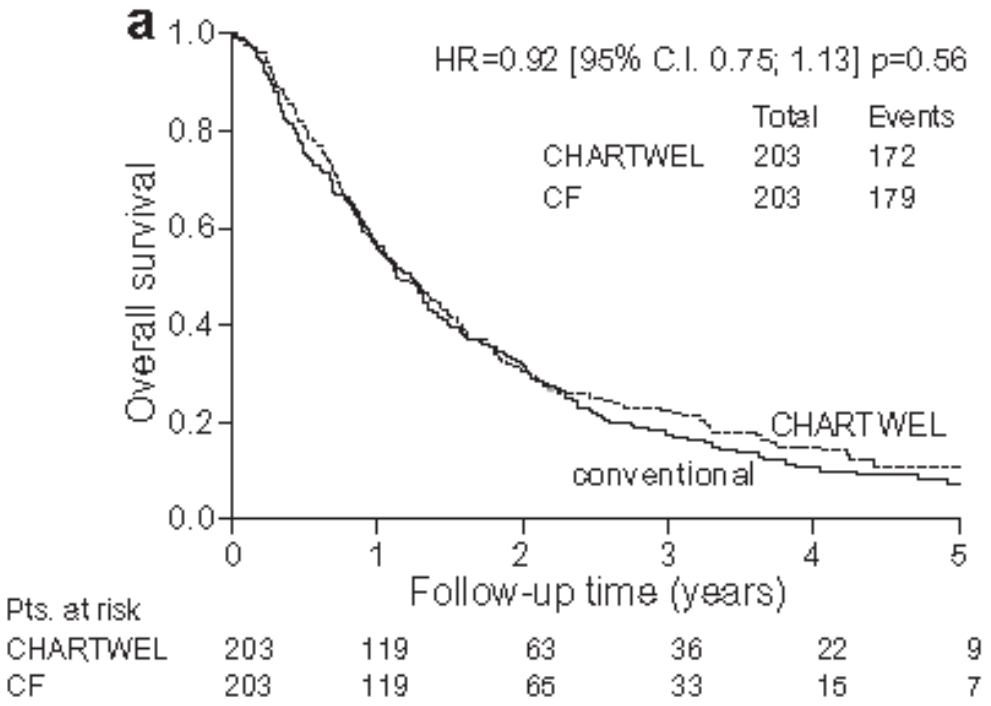


RT konwencjonalna
vs. frakcjonowanie
niekonwencjonalne



RT-CT jednoczasowa
vs. RT-CT sekwencyjna

Final results of the randomized phase III CHARTWEL-trial (ARO 97-1) comparing hyperfractionated-accelerated versus conventionally fractionated radiotherapy in non-small cell lung cancer (NSCLC)



Radiotherapy and Oncology 100 (2011) 76–85

Final results of the randomized phase III CHARTWEL-trial (ARO 97-1) comparing hyperfractionated-accelerated versus conventionally fractionated radiotherapy in non-small cell lung cancer (NSCLC)

Ctx	CF	CHARTWEL	HR	p-value
No	103/150	96/150	0.97 (0.69; 1.37)	0.86
yes	38/53	36/53	0.48 (0.26; 0.89)	0.019

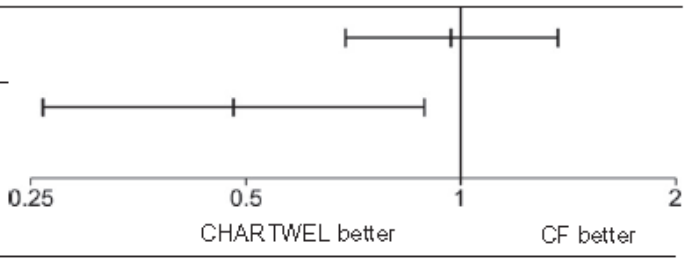


Fig. 6. Subgroup analysis. Impact of the stratification criterion "chemotherapy (Ctx) before radiotherapy" on locoregional tumour control. Numbers of events/ number entered are given for each group and treatment arm.

Indukcyjna chemioterapia i przyspieszona radioterapia (sekwencyjnie)

Radiotherapy and Oncology 100 (2011) 76–85

Is Concurrent Chemoradiation the Standard of Care for Locally Advanced Non-small Cell Lung Cancer? A Review of Guidelines and Evidence

N. O'Rourke *, F. Macbeth †

Concurrent chemoradiation is associated with significant toxicity.

„The evidence to support concurrent chemoradiation as the standard of care is not robust, in spite of recommendation within the number of guidelines"

Further trials should be supported

Clinical Oncology 22 (2010) 347–355

Thoracic radiotherapy with or without daily low-dose carboplatin in elderly patients with non-small-cell lung cancer: a randomised, controlled, phase 3 trial by the Japan Clinical Oncology Group (JCOG0301)

Shinji Atagi, Masaaki Kawahara, Akira Yokoyama, Hiroaki Okamoto, Nobuyuki Yamamoto, Yuichiro Ohe, Toshiyuki Sawa, Satoshi Ishikura, Taro Shibata, Haruhiko Fukuda, Nagahiro Saijo, Tomohide Tamura, on behalf of the Japan Clinical Oncology Group Lung Cancer Study Group

60 Gy d fx 2.0 Gy (40 Gy „duże pola”, 20 Gy boost)

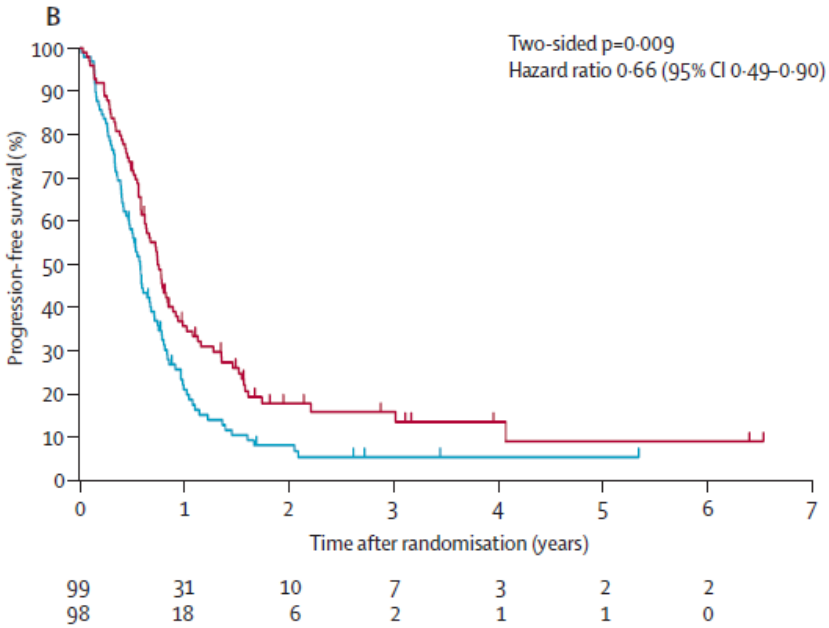
vs.

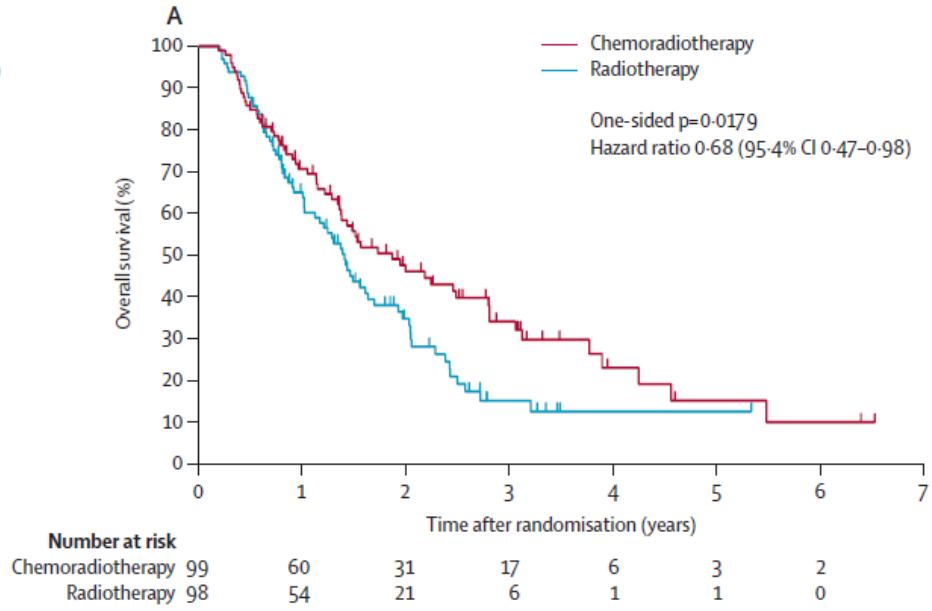
60 Gy d fx 2.0 Gy
+
karboplatyna (30 mg/m2, 5 dni w tygodniu przez 20 dni)

Lancet Oncol 2012; 13: 671–78

	Chemoradiotherapy group (n=100)	Radiotherapy group (n=100)
Age (years)	77 (71–89)	77 (71–93)
Sex		
Male	80 (80%)	84 (84%)
Female	20 (20%)	16 (16%)
Histological status of tumour		
Adenocarcinoma	48 (48%)	41 (41%)
Squamous-cell	42 (42%)	55 (55%)
Large-cell	1 (1%)	1 (1%)
Adenosquamous carcinoma	2 (2%)	0
Other	7 (7%)	3 (3%)
ECOG performance status		
0	41 (41%)	41 (41%)
1	56 (56%)	55 (55%)
2	3 (3%)	4 (4%)
Disease stage		
IIIA	51 (51%)	54 (54%)
IIIB	49 (49%)	46 (46%)

Lancet Oncol 2012; 13: 671–78





leucopenia (61 [63·5%] *vs* none), neutropenia (55 [57·3%] *vs* none)

Radiosensitization With Carboplatin for Patients With Unresectable Stage III Non–Small-Cell Lung Cancer: A Phase III Trial of the Cancer and Leukemia Group B and the Eastern Cooperative Oncology Group

By Gerald Clamon, James Herndon, Robert Cooper, Alex Y. Chang, Julian Rosenman, and Mark R. Green

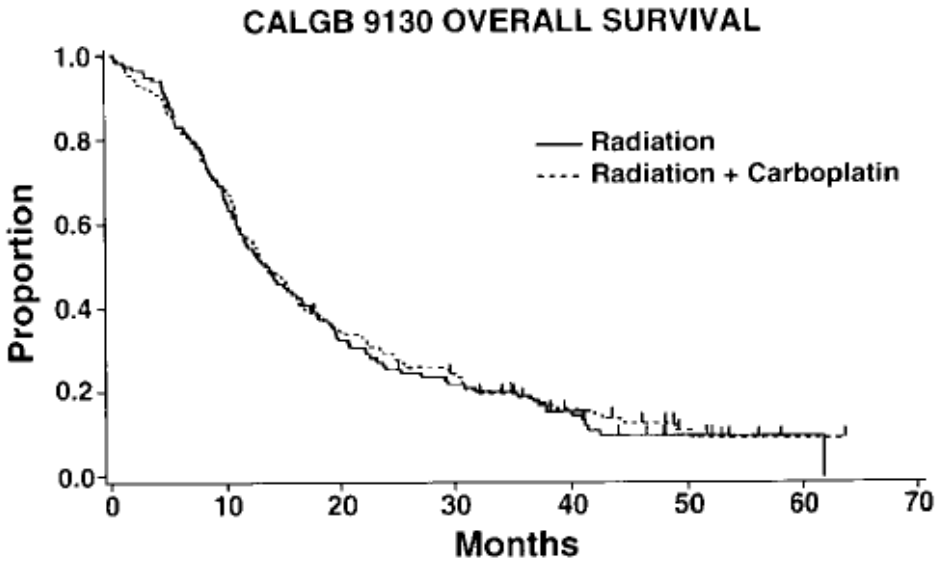


Fig 1. Overall survival for patients treated with radiotherapy alone or radiotherapy with concurrent weekly carboplatin. Median survivals are 13.48 months and 13.38 months, respectively ($P = .7426$).

Table 1. Patient Characteristics

Characteristic	Radiation Only No.	Radiation Only %	Concurrent Carboplatin and Radiation No.	Concurrent Carboplatin and Radiation %
Sex				
Male	85	71	88	68
Female	35	29	42	32
Age, years				
Median	63		63	
Range	34-78		39-78	

Journal of Clinical Oncology, Vol 17, No 1 (January), 1999: pp 4-11

Continuously infused carboplatin used as radiosensitizer in locally unresectable non-small-cell lung cancer: a multicenter phase III study

H. J. M. Groen[1]*, A. H. W. van der Leest[1], E. Fokkema[1], P. R. Timmer[2], G. D. Nossent[3], W. J. G. M. Smit[4], J. Nabers[4], H. J. Hoekstra[1], J. Hermans[5], R. Otter[6], J. W. G. van Putten[1], E. G. E. de Vries[1] & N. H. Mulder[1]

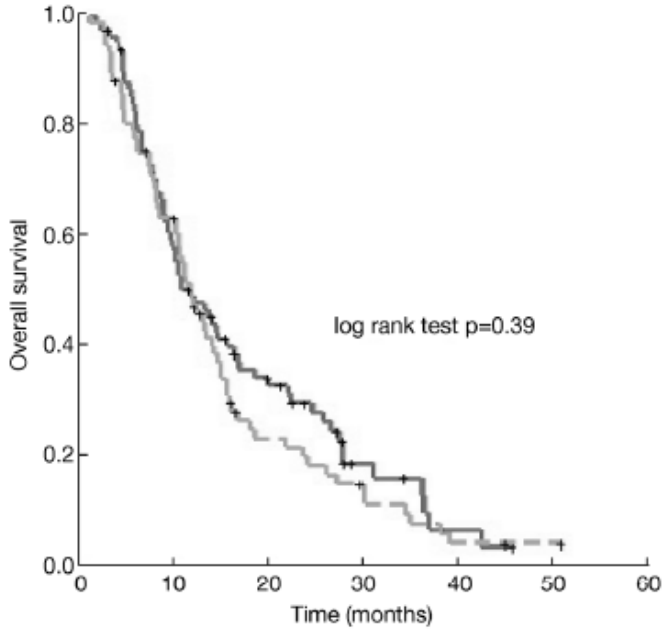


Figure 1. Overall survival for locally unresectable non-small-cell lung cancer (NSCLC) patients (160 patients) treated with 6 weeks continuously infused carboplatin and concurrent radiotherapy versus radiotherapy alone. +, censored patients. Pink line, radiation alone; green line, carboplatin and radiation.

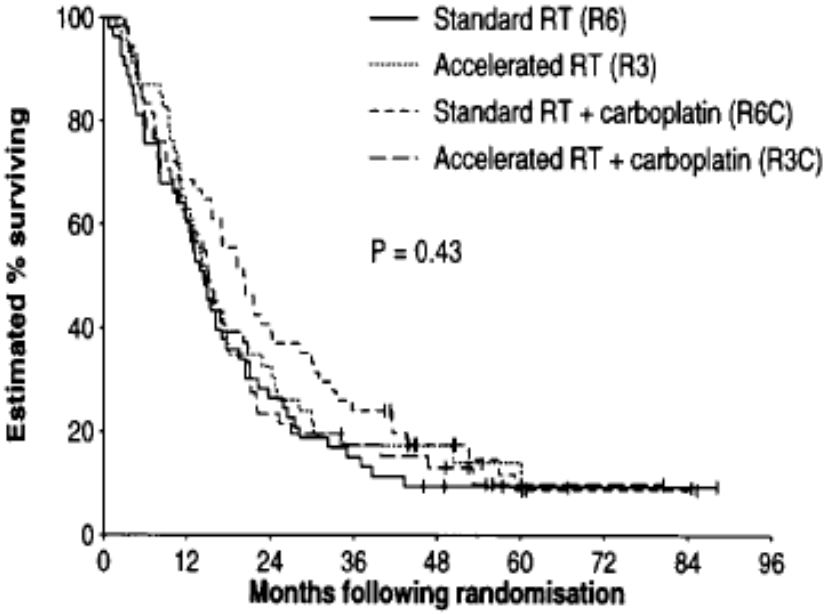
Table 1. Patients characteristics at diagnosis of NSCLC

	Carboplatin and radiotherapy	Radiotherapy	Total
No. of patients	82	78	160
Male/female	75/7	66/12	141/19
Mean age (years)	59.6	60.4	60.1

Annals of Oncology 15: 427–432, 2004

A randomised phase III study of accelerated or standard fraction radiotherapy with or without concurrent carboplatin in inoperable non-small cell lung cancer: final report of an Australian multi-centre trial

David Ball[a,*], James Bishop[a], Jennifer Smith[a], Peter O'Brien[b], Sidney Davis[a], Gail Ryan[a], Ian Olver[c], Guy Toner[a], Quenten Walker[d], David Joseph[e]



Number at risk

R6	53	32	14	8	4	1	1	1	0
R3	46	29	15	8	6	3	1	1	0
R6C	54	37	22	13	7	3	1	1	0
R3C	51	31	12	8	6	1	1	0	0

Fig. 3. Overall survival by treatment arm. Vertical marks indicate censoring for patients who were still alive at the close-out date.

Radiotherapy and Oncology 52 (1999) 129–136

Karboplatyna jednoczasowo z radioterapią

Średnia długość życia

- Japonia: 82.0 lata
- Polska: 77,9 lat

Age dependent prognosis in concurrent chemo-radiation of locally advanced NSCLC

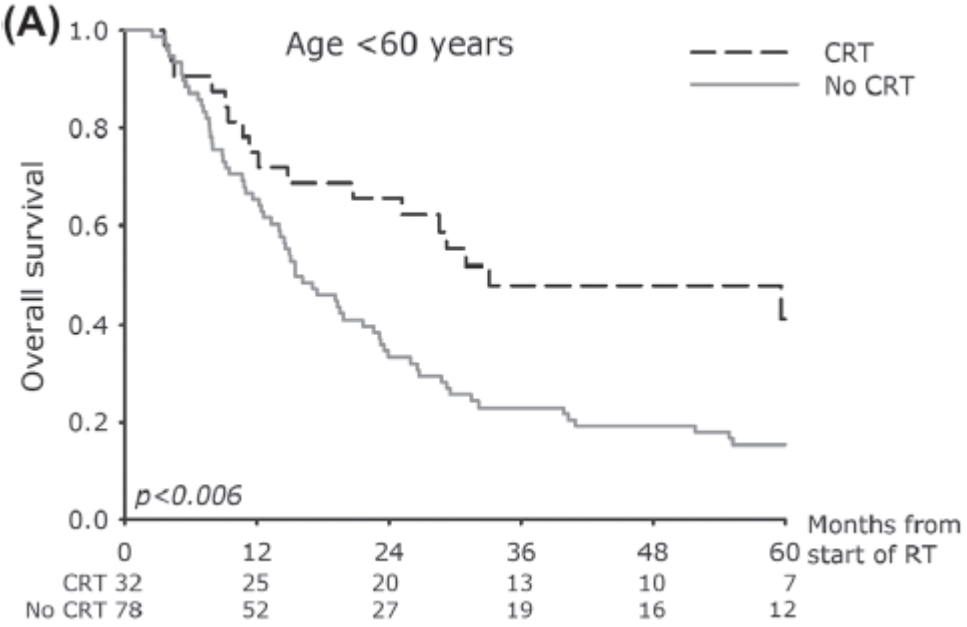
OLFRED HANSEN[1,3], TINE SCHYTTE[1,3], MORTEN NIELSEN[2] & CARSTEN BRINK[2,3]

- The patients were treated with 60 – 66 Gy in 30 – 33 fractions in 6 – 6 ½ weeks.
- The GTV of primary tumor and nodes were expanded by 5 – 15 mm to create a clinical target volume (CTV). No elective node irradiation was performed
- The concurrent chemotherapy consisted of docetaxel (20 mg/m 2 /week), oral vinorelbine (50 mg/3 times a week), carboplatin (AUC 5)

Acta Oncologica, 2014; Early Online: 1–7

Age dependent prognosis in concurrent chemo-radiation of locally advanced NSCLC

OLFRED HANSEN[1,3], TINE SCHYTTE[1,3], MORTEN NIELSEN[2] & CARSTEN BRINK[2,3]



Acta Oncologica, 2014; Early Online: 1–7

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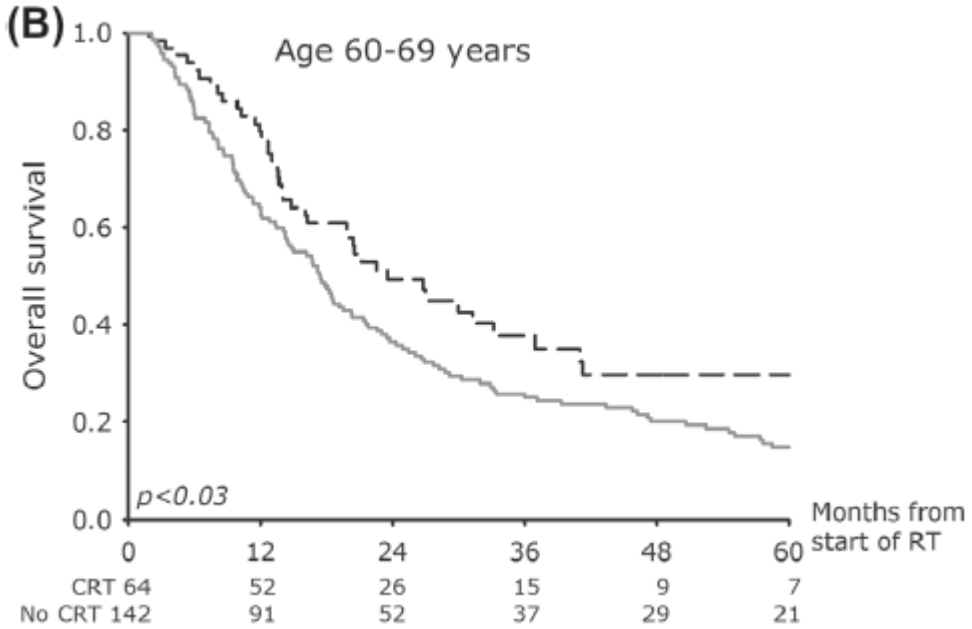

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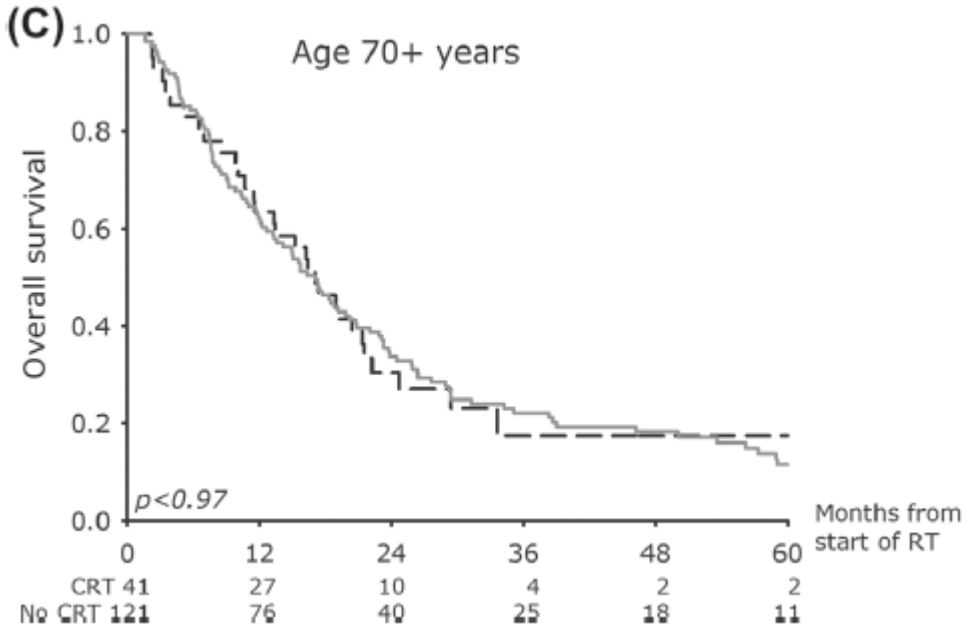

Acta Oncologica, 2014; Early Online: 1–7

Age dependent prognosis in concurrent chemo-radiation of locally advanced NSCLC

OLFRED HANSEN[1,3], TINE SCHYTTE[1,3], MORTEN NIELSEN[2] & CARSTEN BRINK[2,3]

Conclusion. Use of concurrent chemotherapy to radiotherapy of locally advanced NSCLC was associated with a survival benefit in patient younger than 70 years which was not the case for patients older than 70 years, indicating the need to be careful when selecting elderly patients for concurrent chemo-radiation.

Acta Oncologica, 2014; Early Online: 1–7

A new simplified comorbidity score as a prognostic factor in non-small-cell lung cancer patients: description and comparison with the Charlson's index

Condition	Weight
Tobacco consumption	7
Diabetes mellitus	5
Renal insufficiency	4
Respiratory comorbidity	1
Cardiovascular comorbidity	1
Neoplastic comorbidity	1
Alcoholism	1

An SCS was developed and its prognostic value was compared with classical prognostic determinants in the outcome of 735 previously untreated NSCLC patients.

British Journal of Cancer (2005) 93, 1098 – 1105

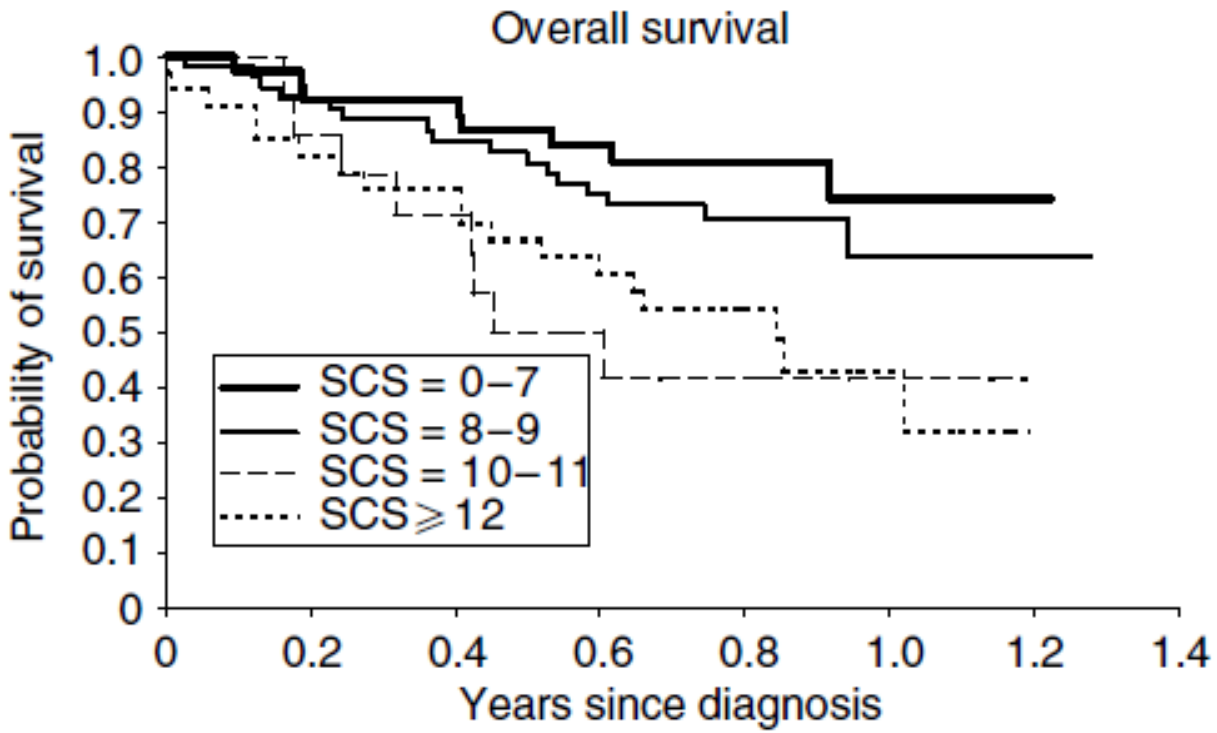

Figure 1 Step 2 patients survival according to SCS (log rank test; $P<0.01$).

Influence of Comorbidities on the Efficacy of Radiotherapy with or without Chemotherapy in Elderly Stage III Non-small Cell Lung Cancer Patients

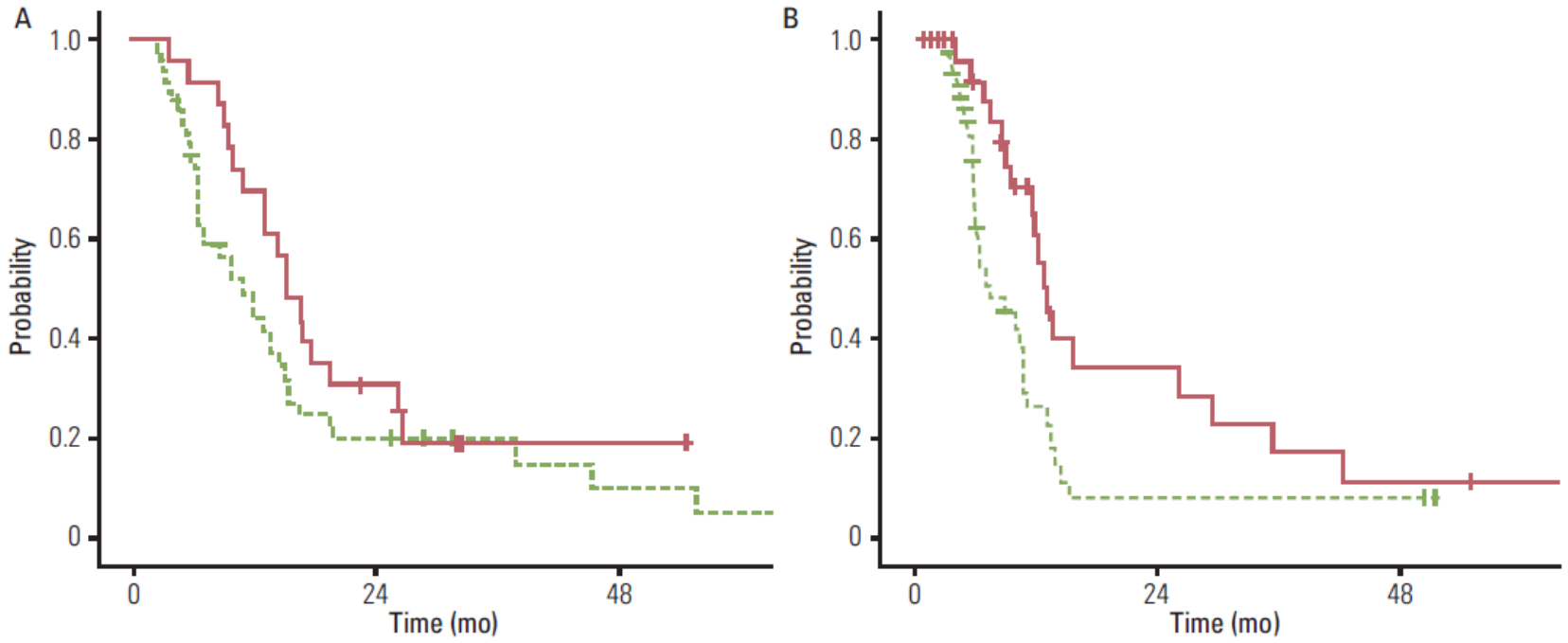

Fig. 1. The frail elderly subgroup with a simplified comorbidity score of ≥ 10. Comparison of overall survival (A) and progression-free survival (B) between chemoradiotherapy and radiotherapy alone. Solid line, chemoradiotherapy; dotted line, radiotherapy alone.

Cancer Res Treat. 2012;44(4):242-250

Influence of Comorbidities on the Efficacy of Radiotherapy with or without Chemotherapy in Elderly Stage III Non-small Cell Lung Cancer Patients

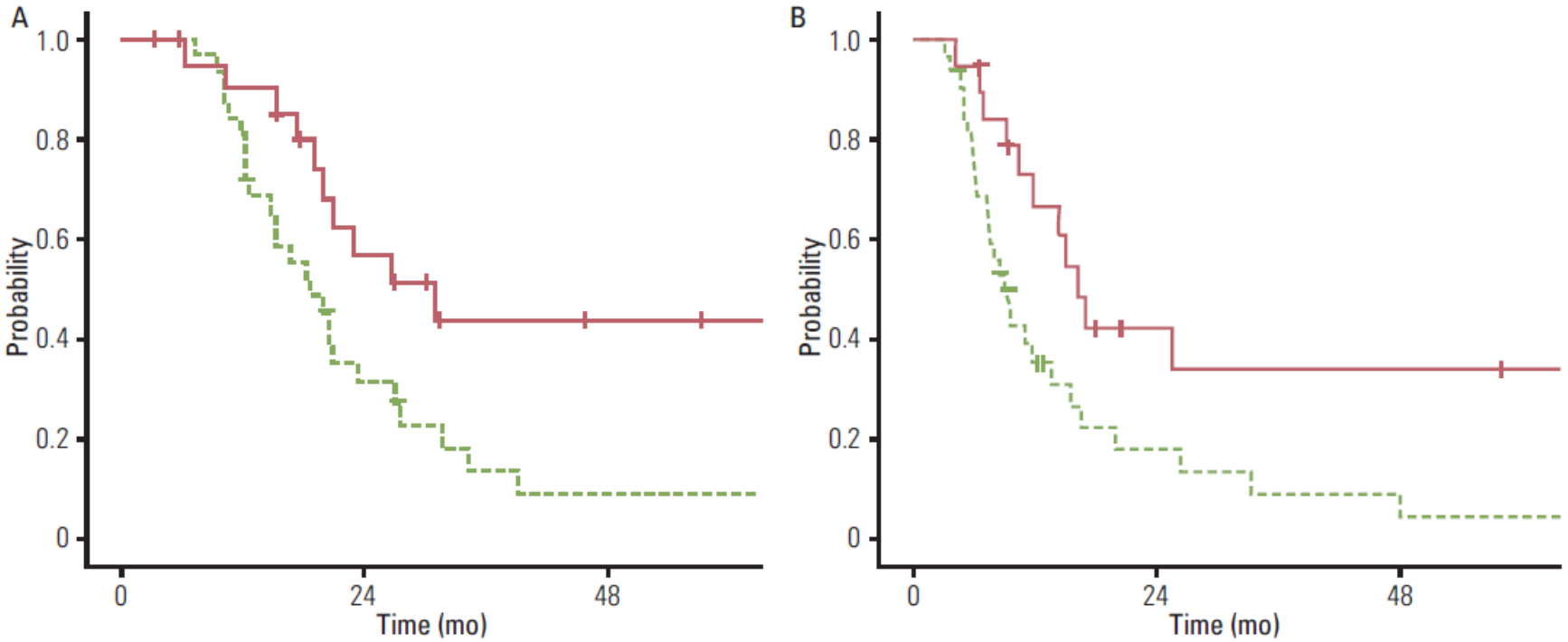

Fig. 2. The fit elderly subgroup with a simplified comorbidity score of< 10. Comparison of overall survival (A) and progression-free survival (B) between chemoradiotherapy and radiotherapy alone. Solid line, chemoradiotherapy; dotted line, radiotherapy alone.

Cancer Res Treat. 2012;44(4):242-250

Influence of Comorbidities on the Efficacy of Radiotherapy with or without Chemotherapy in Elderly Stage III Non-small Cell Lung Cancer Patients

Conclusion

Multiple comorbidities evaluated according to the SCS are related to poor OS in elderly patients with stage III NSCLC. CRT improved clinical outcome when compared to RT in the fit elderly subgroup, however, the gain from this treatment was negated in the frail elderly subgroup with multiple comorbidities. Therefore, evaluation of comorbidity is necessary in order to determine whether chemotherapy should be combined with RT in elderly patients with stage III NSCLC.

Cancer Res Treat. 2012;44(4):242-250

WNIOSKI

- Większość chorych w wieku zaawansowanym nie odnosi korzyści z jednoczasowej radio-chemioterapii i powinna być leczona w sposób sekwencyjny (indukcyjna chemioterapia-radioterapia) lub z zastosowaniem samodzielnej radioterapii.

- Skale pozwalające na ocenę obciążeń związanych ze schorzeniami współistniejącymi (np. skala Collineta) umożliwiają identyfikację stosunkowo wąskiej podgrupy chorych w wieku zaawansowanym mogącej odnieść zysk z leczenia jednoczasowego.

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