20. ULUSAL KANSER KONGRESİ
19 - 23 Nisan 2013
Susesi Otel - ANTALYA

Yaygın metastatik akciğer kanserinde konsolidasyon radyoterapisi verilmelidir?

BAŞKENT ÜNİVERSİTESİ
ADANA UYGULAMA VE ARAŞTIRMA MERKEZİ
KIŞLA YERLEŞKESİ

Dr. Erkan Topkan
Radyasyon Onkolojisi A.D.

Yaygın nedir? Ne kadar yaygın?

Bir metastaz=3metastaz=20 metastaz.....

(?)

Kanser Yayılım Teorileri

- **Ortodoks Yaklaşım: Sıralı hastalık yayılımı (Halstead WS; 1907)**
  - Lokal
  - Rejyonel
  - Sistemik

TEZ

- **Non-ortodoks Yaklaşım: Başlangıçtan itibaren sistemik hastalık (Hellman S; 1994)**
  - Metastaz başlangıçta da vardı

ANTİTEZ

- **Dialektik Yaklaşım: Değişken hastalık süreci (Hellman-Weichselbaum-2005)**
  - Lokal hastalık
  - Rejyonel yayılım
  - Sistemik Yayılım
  - Lokorejyonel hastalık
  - Sistemik başlangıç

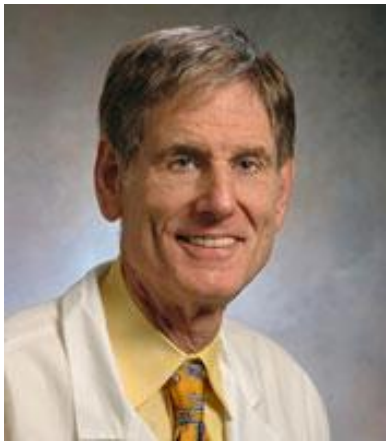
SENTEZ

JOURNAL OF CLINICAL ONCOLOGY
Official Journal of the American Society of Clinical Oncology

EDITORIAL

Oligometastases

Samuel Hellman
Ralph R. Weichselbaum
The University of Chicago
Chicago, IL



Both the contiguous and systemic theories of cancer pathogenesis are too restricting and do not consider what is now known about tumor progression during clinical evolution. A third paradigm, one that synthesizes the contiguous-systemic dialectic, has been suggested by one of us[6] to explain the natural history of breast cancer. This thesis argues that cancer comprises a biologic spectrum extending from a disease that remains localized to one that is systemic when first detectable but with many intermediate states. Metastases are a function of both tumor size and tumor progression.

From considerations of these theories of cancer dissemination, in the light of the emerging information on the multistep nature of cancer progression, we propose the existence of a clinical significant state of *oligometastases*. For certain tumors, the anatomy and physiology may limit or concentrate these metastases to a single or a limited number of organs. The likelihood of the oligometastatic state should correlate with the biology of tumor progression, rough clinical surrogates of which, for many tumors, might be primary tumor size and grade. Metastasizing cells may seed specific organs as a function of the seeding tumor cell number and characteristics as well as the receptivity of the host organ. The importance of ''seed and soil'' have been considered elsewhere[14,15] and will not be discussed further. Tumors early in the chain of progression may have metastases limited in number and location because the facility for metastatic growth has not been fully developed and the site for such growth is restricted (this is in contrast to micrometastases, which, although small in size, are extensive in number). With further pro-

Oligometastaz

- Tm yaygın met hale gelmeden önce sınırlı met olabilir (1-5)
- Oligometastaz lokalize hastalıkla sınırlı met hastalık arasında bir durumu temsil eder
- Oligometastaz türleri
  - Başlangıçta oligometastatik
  - İndüklenmiş oligometastatik
  - Relaps oligometastatik (Oligorekürrens)

Oligomet ablate olursa potansiyel kür mümkün olabilir

Oligometastaz İnsidansı Nedir?

- Net insidans ? Görüntülemedeki iyileşmeyle paralel artış +
- MSKCC datası: Sarkomlarda ilk nüks yeri %19 izole AC

Gadd MA, Casper ES, Woodruff JM, et al: Development and treatment of pulmonary metastases in adult patients with extremity soft tissue sarcoma. Ann Surg 218:705-712, 1993

- Metastatik kolorektal ca: %46 izole KC, %38 1-3 met

Ksienski D, Woods R, Speers C, et al: Patterns of referral and resection among patients with liver-only metastatic colorectal cancer (MCRC). Ann Surg Oncol 17:3085-3093, 2010

- Evre I-III meme ca= %16 oligomet, ortalama 1.7 lezyon/hasta. Ayrıntılı görüntülemede oran daha yüksek

Dorn P, Meriwether A, LeMieux M, et al: Patterns of distant failure and progression in breast cancer: Implications for the treatment of oligometastatic disease. Int J Radiat Oncol 81:S643, 2011

- **PET/CT ile evre I-III AC ca= %19 occult met +**

MacManus MP, Hicks RJ, Matthews JP, et al: High rate of detection of unsuspected distant metastases by PET in apparent stage III non-small-cell lung cancer: Implications for radical radiation therapy. Int J Radiat Oncol Biol Phys 50:287-293, 2001

- **Çoğu hastada adrenal met +**

Tanvetyanon T, Robinson LA, Schell MJ, et al: Outcomes of adrenalectomy for isolated synchronous versus metachronous adrenal metastases in non–small-cell lung cancer: A systematic review and pooled analysis. J Clin Oncol 26:1142-1147, 2008

THE JOURNAL of UROLOGY®

American Urological Association
Education and Research, Inc.

Barney JD, Churchill EJ

Adenocarcinoma of the kidney with metastasis to the lung cured by nephrectomy and lobectomy

J Urol 42:269-276, 1939

In 1939, Barney et al reported a case of renal adenocarcinoma metastatic to the lung, treated with pulmonary metastasectomy and nephrectomy. The patient died 23 years later and demonstrated no evidence of tumor recurrence.


GİRİLMEZ!
Metastatik Kanserler

Rektum Kanseri Kanıtları

Rees M, Tekkis PP, Welsh FK, et al: Evaluation of long-term survival after hepatic resection for metastatic colorectal cancer: A multifactorial model of 929 patients. Ann Surg 247:125-135, 2008

Nordlinger B, Guiguet M, Vaillant JC, et al: Surgical resection of colorectal carcinoma metastases to the liver: A prognostic scoring system to improve case selection, based on 1568 patients—Association Française de Chirurgie. Cancer 77:1254-1262, 1996

Pawlik TM, Scoggins CR, Zorzi D, et al: Effect of surgical margin status on survival and site of recurrence after hepatic resection for colorectal metastases. Ann Surg 241:715-722, 2005; discussion 722-724

KC rezeksiyonu

5 yıllık OS %25-50

Fong Y, Fortner J, Sun RL, et al: Clinical score for predicting recurrence after hepatic resection for metastatic colorectal cancer: Analysis of 1001 consecutive cases. Ann Surg 230:309-318, 1999; discussion 318-321

10-yıl OS: %22

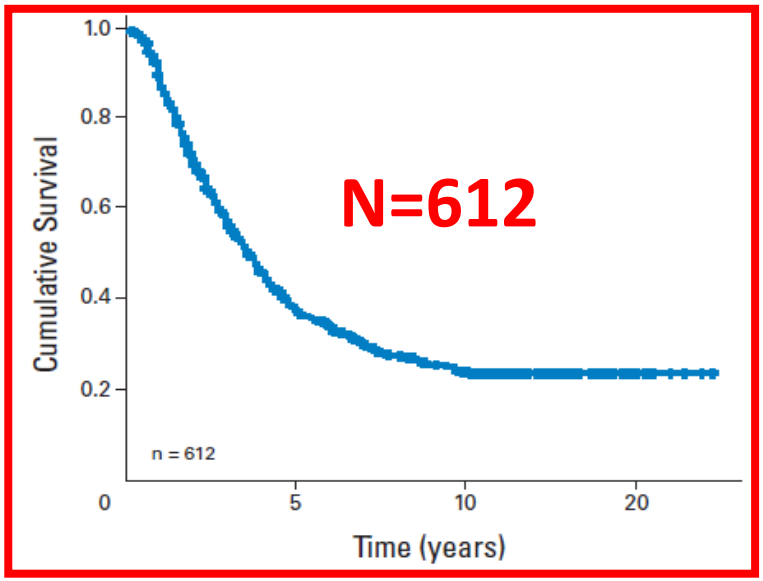
VOLUME 25 · NUMBER 29 · OCTOBER 10 2007

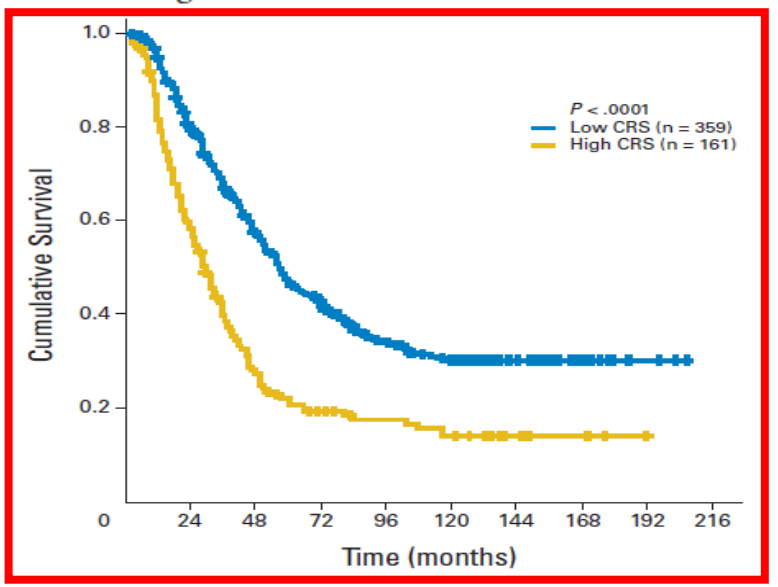
JOURNAL OF CLINICAL ONCOLOGY

ORIGINAL REPORT

Actual 10-Year Survival After Resection of Colorectal Liver Metastases Defines Cure

James S. Tomlinson, William R. Jarnagin, Ronald P. DeMatteo, Yuman Fong, Peter Kornprat, Mithat Gonen, Nancy Kemeny, Murray F. Brennan, Leslie H. Blumgart, and Michael D'Angelica





Results

There were 612 consecutive patients identified with 10-year follow-up. Median DSS was 44 months. There were 102 actual 10-year survivors. Ninety-nine (97%) of the 102 were disease free at last follow-up. Only one patient experienced a disease-specific death after 10 years of survival. In contrast, 34% of the 5-year survivors suffered a cancer-related death. Previously identified poor prognostic factors found among the 102 actual 10-year survivors included 7% synchronous disease, 36% disease-free interval less than 12 months, 25% bilobar metastases, 50% node-positive primary, 39% more than one metastasis, and 35% tumor size more than 5 cm.

AC Metastazları

THE ANNALS OF THORACIC SURGERY

Surgery for Pulmonary Metastasis: A 20-Year Experience

Clifton F. Mountain, M.D., Marion J. McMurtrey, M.D., and Kay E. Hermes, B.S.

Ann Thorac Surg 1984;38:323-330

ABSTRACT **During a recent 20-year period, 556 patients underwent operation for pulmonary metastasis at the University of Texas M. D. Anderson Hospital and Tumor Institute at Houston. The surgical mortality was 1.5% for 772 resections. A selection of 443 patients was made to evaluate the contribution of operative intervention as a primary treatment, with selective adjunctive therapy when applicable. The success of a surgical approach is dependent**

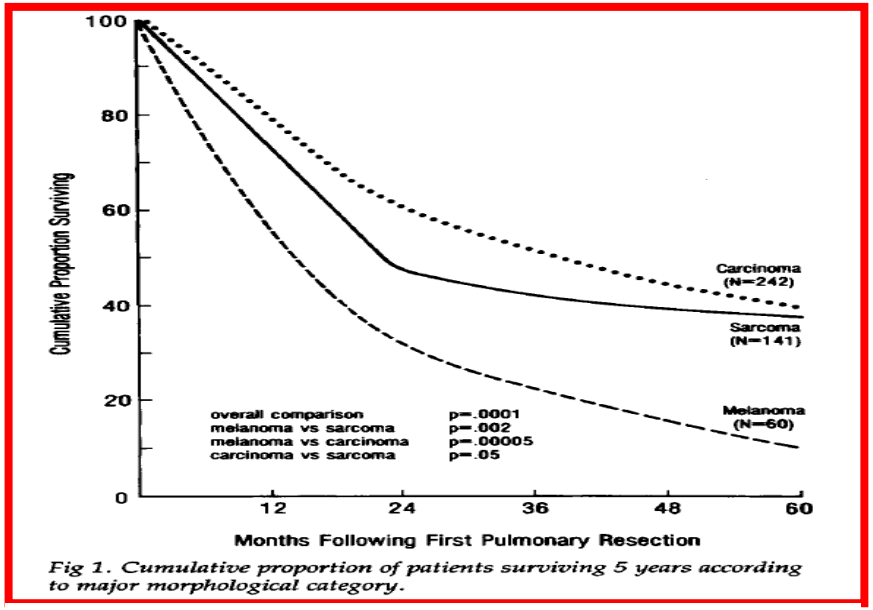
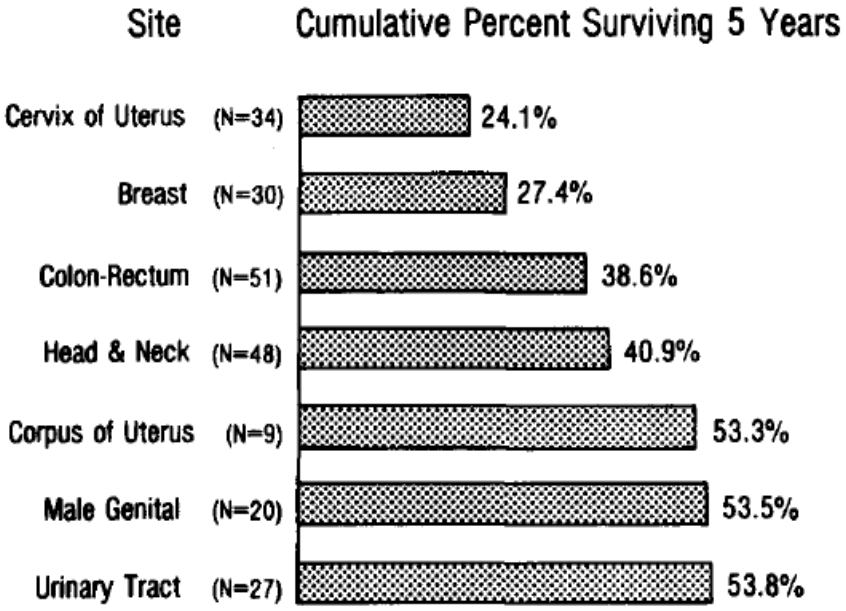


Fig 1. Cumulative proportion of patients surviving 5 years according to major morphological category.



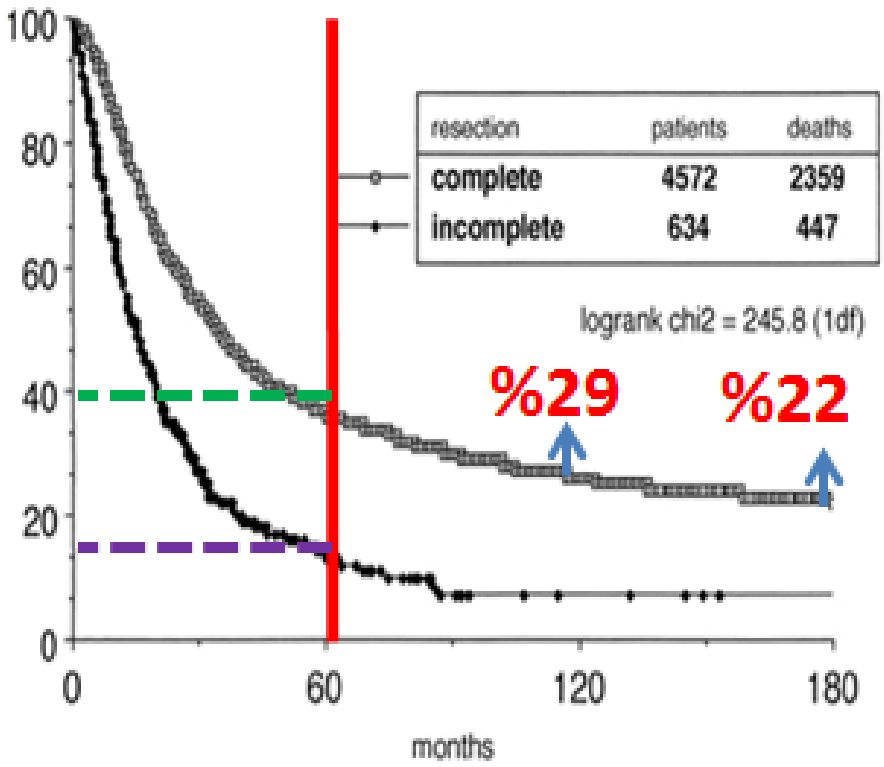
The Journal of
THORACIC AND
CARDIOVASCULAR SURGERY

LONG-TERM RESULTS OF LUNG METASTASECTOMY: PROGNOSTIC ANALYSES BASED ON 5206 CASES

The International Registry of Lung Metastases*, Writing Committee: Ugo Pastorino, MD, Marc Buyse, ScD, Godehard Friedel, MD, Robert J. Ginsberg, MD, Philippe Girard, MD, Peter Goldstraw, MD, Michael Johnston, MD, Patricia McCormack, MD, Harvey Pass, MD, Joe B. Putnam, Jr., MD

Patients' features

	Complete	*Incomplete*	*Total*
Type			
Epithelial	1984	276	2260
Sarcoma	1917	256	2173
Germ cell	318	45	363
Melanoma	282	46	328
Other	70	11	81
Free interval			
0	469	87	556
1-11 mo	915	132	1047
12-35 mo	1662	195	1857
36+ mo	1416	204	1620



VOLUME 31 · NUMBER 11 · APRIL 10 2013

JOURNAL OF CLINICAL ONCOLOGY

COMMENTS AND CONTROVERSIES

Extracranial Oligometastases: A Subset of Metastases Curable With Stereotactic Radiotherapy

Kimberly S. Corbin, Samuel Hellman, and Ralph R. Weichselbaum, *University of Chicago Medical Center, Chicago, IL*

Table 1. Summary of Surgical Metastasectomy and SBRT for Metastasis Therapy to Multiple Sites

Surgical Series	Year	No. of Patients	5-Year Survival (%)	10-Year Survival (%)	Site
Rees et al (colorectal cancer)	2008	929	36[a]	23[a]	Liver
Fong et al (colorectal cancer)	1999	1,001	37	22	Liver
Pawlik et al (colorectal cancer)	2005	557	58	No 10-year follow-up	Liver
Carpizo et al (colorectal cancer)	2009	1,369		No 10-year follow-up	
Liver only		1,242	49		Liver
Limited EHD		127	26		Liver and EHD[b]
De Haas et al (colorectal cancer)	2008				Liver
R0 resection		234	61	43	
R1 resection		202	57	37	
Elias et al (colorectal cancer)	1998	269	24.7	No 10-year follow-up	Liver
Elias et al (noncolorectal only)	1998	147	36	No 10-year follow-up	Liver
Scheele et al (colorectal cancer)	1995	350	39.3	23.6	Liver
de Jong et al (colorectal cancer)	2009	1,669	47.3	No 10-year follow-up	Liver
Pastorino et al (many primary tumors)[c]	1997	4,572	36	26	Lung
Choong et al (soft tissue sarcoma)	1995	274	40	No 10-year follow-up	Lung
Casiraghi et al (many primary tumors)[d]	2011	575	46	No 10-year follow-up	Lung
Pfannschmidt et al (renal cell carcinoma)	2002	191	39.6	No 10-year follow-up	Lung
Pfannschmidt et al (colorectal cancer)	2003	167	32.4	10-year follow-up	Lung
Kanemitsu et al (colorectal cancer)	2003	313	38.3	No 10-year follow-up	Lung
Petersen et al (melanoma)	2007			No 10-year follow-up	Lung
Complete resection		249	21		
Incomplete resection		69	13		
Saito et al (colorectal cancer)	2002	165	39.6	37.2	Lung
Kim et al (multiple primary tumors)[e]	1998	37	24	No 10-year follow-up	Adrenal
Porte et al (NSCLC)	2001	43	11[f]	No 10-year follow-up	Adrenal
Mercier et al (NSCLC)	2005	23	23	No 10-year follow-up	Adrenal
Burt et al (NSCLC)	1992	185	13	7	Brain
Bonnette et al (NSCLC)	2001	103	11	No 10-year follow-up	Brain

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COMMENTS AND CONTROVERSIES

Extracranial Oligometastases: A Subset of Metastases Curable With Stereotactic Radiotherapy

Kimberly S. Corbin, Samuel Hellman, and Ralph R. Weichselbaum, *University of Chicago Medical Center, Chicago, IL*

Radiation Series	Year	No. Patients	No. Lesions	Local Control (%)	Survival (%)	Site
Blomgren et al	1995	31	42	80	Not reported	Liver, lung, and retroperitoneum
Wulf et al	2004	41	51	80	33[g]	Lung
Hoyer et al (colorectal cancer)	2006	64	141	86[g]	38[g], 13[h]	Lung, liver, and adrenal
Hof et al	2007	61	71	63[i]	47.8[i]	Lung
Rusthoven et al	2009	47	63	92[g]	30[g]	Liver
Rusthoven et al	2009	38	63	96[g]	39[g]	Lung
Kang et al (colorectal cancer)	2010	59	78	66[i]	49[i]	Multiple
Okunieff et al	2006	49	125	83[j]	25[j]	Lung
Katz et al	2007	69	174	57[k]	24[l,m]	Liver
Lee et al	2009	70	143	71[m]	47[n]	Liver
Milano et al	2011	121				Multiple[p]
Breast cancer		39		87[o]	74[g], 47[o]	
All others		82		65[o]	39[g], 9[o]	
Salama et al	2011	61	111	66.7[g,q]	56.7[g]	Multiple
Bae et al (colorectal cancer)	2012	41	50	64[i], 57[h]	64[i], 38[h]	Lung, liver, and lymph node
Norihisa et al	2008	34		90[g]	84.3[g]	Lung

- 5-y lokal kontrol %63-96 (%80)
- 5-y OS (30-94)

YAYGIN EVRE KÜÇÜK HÜCRELİ AKCİĞER KANSERİNDE (KHAK) KÜRATİF RADYOTERAPİ

- PCI
- TRT
- Met. RT

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Prophylactic Cranial Irradiation in Extensive Small-Cell Lung Cancer

Ben Slotman, M.D., Ph.D., Corinne Faivre-Finn, M.D., Ph.D., Gijs Kramer, M.D.,* Elaine Rankin, M.D., Michael Snee, D.M., Matthew Hatton, F.R.C.R., Pieter Postmus, M.D., Ph.D., Laurence Collette, Ph.D., Elena Musat, M.D., and Suresh Senan, Ph.D., F.R.C.R., for the EORTC Radiation Oncology Group and Lung Cancer Group†

ABSTRACT

BACKGROUND

We conducted a randomized trial of prophylactic cranial irradiation in patients with extensive small-cell lung cancer who had had a response to chemotherapy.

METHODS

Patients between the ages of 18 and 75 years with extensive small-cell lung cancer were randomly assigned to undergo prophylactic cranial irradiation (irradiation group) or receive no further therapy (control group). The primary end point was the time to symptomatic brain metastases. Computed tomography or magnetic resonance imaging of the brain was performed when any predefined key symptom suggestive of brain metastases was present.

RESULTS

The two groups (each with 143 patients) were well balanced regarding baseline characteristics. Patients in the irradiation group had a lower risk of symptomatic brain metastases (hazard ratio, 0.27; 95% confidence interval [CI], 0.16 to 0.44; P<0.001). The cumulative risk of brain metastases within 1 year was 14.6% in the irradiation group (95% CI, 8.3 to 20.9) and 40.4% in the control group (95% CI, 32.1 to 48.6). Irradiation was associated with an increase in median disease-free survival from 12.0 weeks to 14.7 weeks and in median overall survival from 5.4 months to 6.7 months after randomization. The 1-year survival rate was 27.1% (95% CI, 19.4 to 35.5) in the irradiation group and 13.3% (95% CI, 8.1 to 19.9) in the control group. Irradiation had side effects but did not have a clinically significant effect on global health status.

CONCLUSIONS

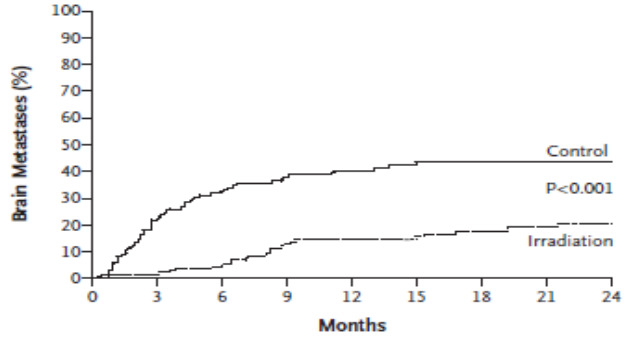
Prophylactic cranial irradiation reduces the incidence of symptomatic brain metastases and prolongs disease-free and overall survival. (ClinicalTrials.gov number, NCT00016211.)

Table 1. Characteristics of the Patients.*

Variable	Prophylactic Cranial Irradiation (N=143)	Control (N=143)
Median age — yr (range)	62 (37–75)	63 (39–75)
Median time after diagnosis — mo	4.2	4.2
Sex — no. (%)		
Male	97 (67.8)	82 (57.3)
Female	46 (32.2)	61 (42.7)
WHO performance score — no. (%)†		
0	52 (36.4)	52 (36.4)
1	80 (55.9)	76 (53.1)
2	11 (7.7)	15 (10.5)
Persistent disease — no. (%)		
Primary	108 (75.5)	110 (76.9)
Distant	99 (69.2)	104 (72.7)

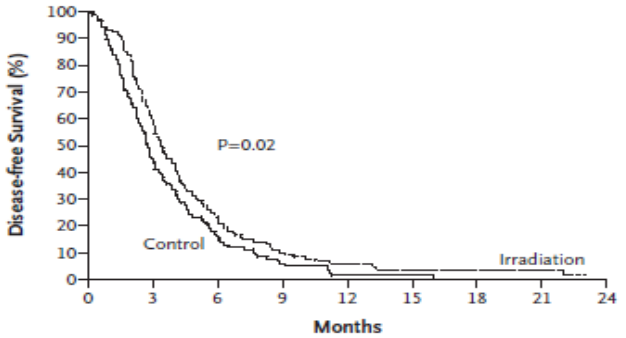
* There were no significant differences between patients in the irradiation group and those in the control group in any category.

† Higher scores on the World Health Organization (WHO) scale indicate poorer performance status.



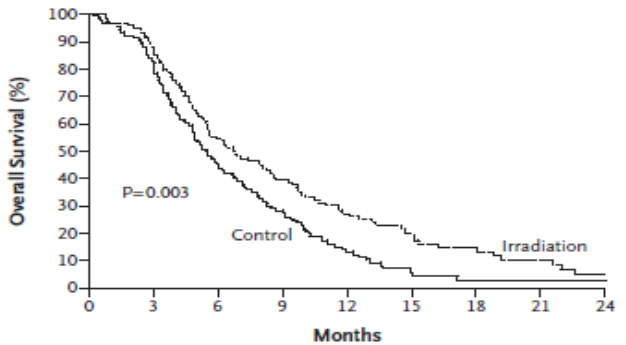
No. at Risk								
Control	143	94	48	29	11	2	1	1
Irradiation	143	119	66	38	24	16	10	5

Figure 1. Cumulative Incidence of Symptomatic Brain Metastases.
The difference in the cumulative incidence of brain metastases between the irradiation group and the control group was significant (P<0.001, by Gray's method).



No. at Risk								
Control	143	62	20	8	1	1	0	0
Irradiation	143	79	30	13	6	3	3	2

Figure 2. Disease-free Survival.
Patients in the irradiation group had a longer median period of disease-free survival (14.7 weeks) than did those in the control group (12.0 weeks) (P=0.02 by log-rank test; hazard ratio, 0.76; 95% CI, 0.59 to 0.96).



No. at Risk								
Control	143	115	58	36	15	3	2	1
Irradiation	143	119	67	44	26	17	11	6

Figure 3. Overall Survival.
Patients in the irradiation group had a longer median overall survival (6.7 months) than did those in the control group (5.4 months) (P=0.003; hazard ratio, 0.68; 95% CI, 0.52 to 0.88).

- PCI ile mikrometastaz tedavisi mümkün
- RT ile metastaz gelişimi engellenebilir

Meta-analysis

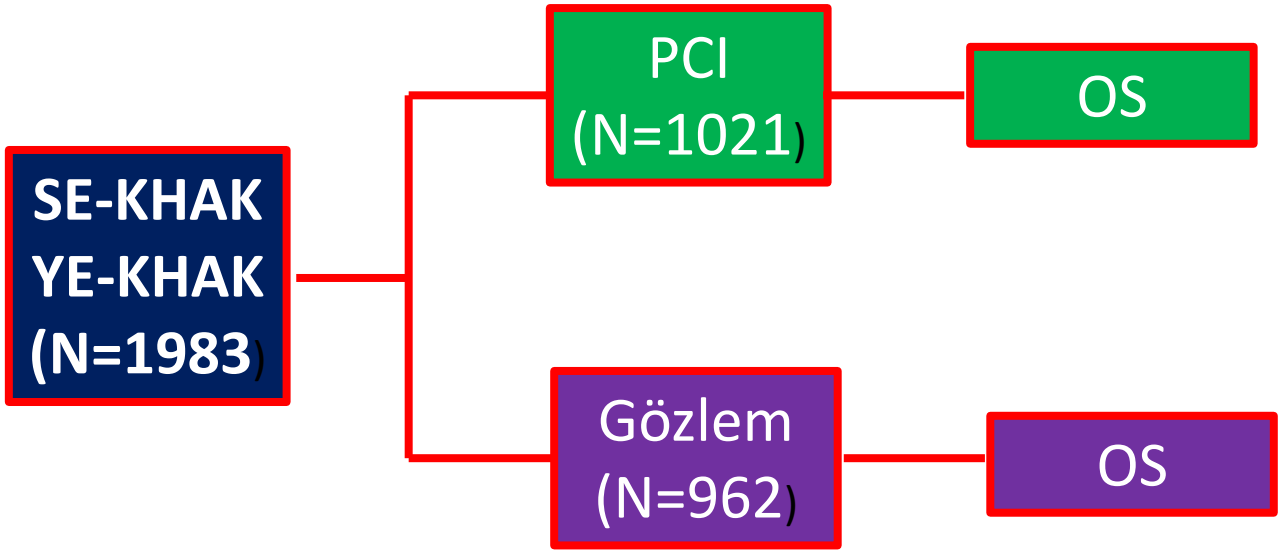
Jornal Brasileiro de Pneumologia

Thirty years of prophylactic cranial irradiation in patients with small cell lung cancer: a meta-analysis of randomized clinical trials*

Gustavo Arruda Viani, André Campiolo Boin, Veridiana Yuri Ikeda, Bruno Silveira Vianna, Rondinelli Salvador Silva, Fernando Santanella

J Bras Pneumol. 2012;38(3):372-381

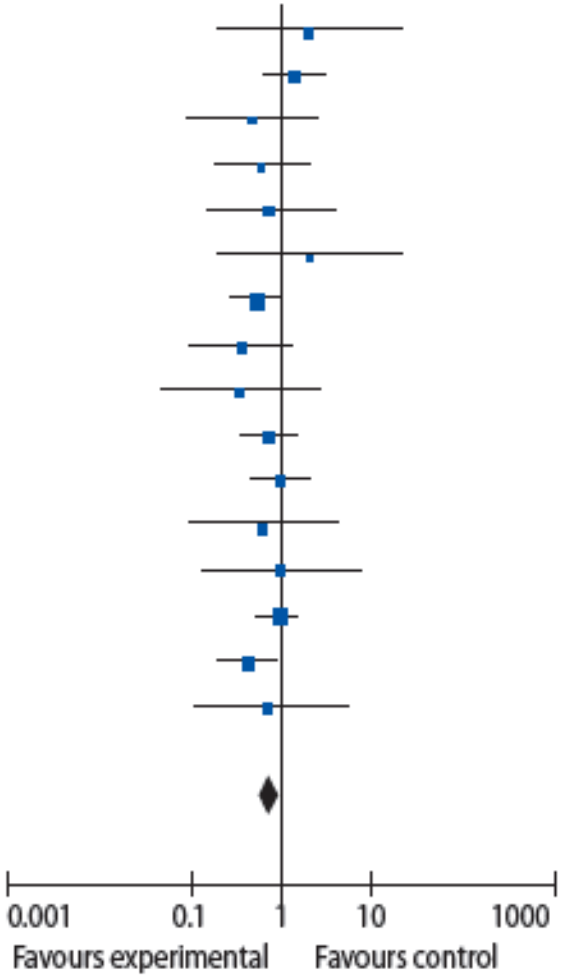
- Son 30 yılda yapılmış 16 RCT



Viani meta analizi

Jornal Brasileiro de Pneumologia

Study or subgroup	Weight, %	Peto OR (95% CI)
Aisner	1.10	2.05 (0.20-21.36)
Arriagada	9.40	1.43 (0.65-3.14)
Beiler	2.10	0.49 (0.09-2.57)
Cao	4.10	0.61 (0.18-2.00)
Kristjansen	2.40	0.76 (0.16-3.64)
Eagan	1.10	2.05 (0.20-21.36)
Gregor	16.20	0.53 (0.29-0.98)
Hansen	3.80	0.36 (0.10-1.24
Jackson	1.40	0.35 (0.04-2.81)
Laplanche	11.70	0.72 (0.36-1.47)
Maurer	9.50	0.97 (0.44-2.13)
Niiranen	1.80	0.62 (0.10-3.86)
Ohonoshi	1.40	1.00 (0.13-7.60)
Seydeu	20.80	0.95 (0.56-1.61)
Slotman	11.80	0.43 (0.21-0.87)
Wagner	1.70	0.73 (0.57-0.93)
Total	**100.00**	**0.73 (0.57-0.93)**



Total number of events

Heterogeneity: chi-square = 11.02; degrees of freedom = 15 (p = 0.75); I^2 = 0%

Test for overall effect: Z = 2.53 (p = 0.01)

Figure 1 - Overall mortality.

J Bras Pneumol. 2012;38(3):372-381

Viani meta analizi

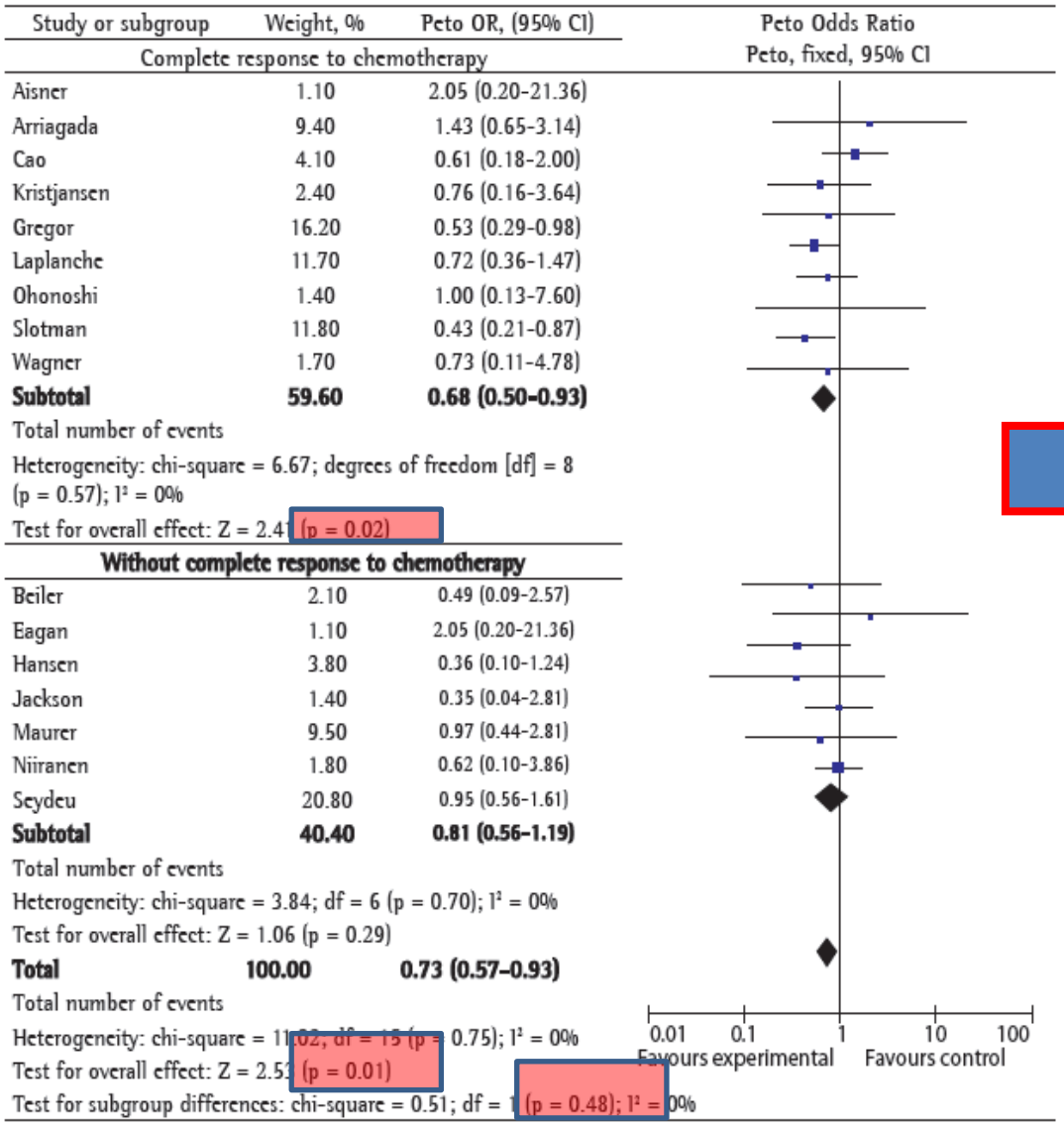


Figure 2 – Mortality and chemotherapy response.

PCI ile mortalite %4.4 azalır

Etki evreden bağımsızdır

J Bras Pneumol. 2012;38(3):372-381

Konsolidasyon TRT

- Medyan OS:10 ay
- 5-y OS: %0-2
- Multiajan KT ile sonuç değişmiyor
- KT'ye cevap genellikle iyi ama kalıcı değil
- En sık nüks yeri: Primer hastalık bölgesi
- Toraks nüksü, uzak metastaz ve ölüm kaçınılmaz
- Konsolidasyon TRT: KT ile elde edilen cevap kalıcı hale getirilebilir mi?
- Tedaviye cevap tm yükü ile sıklıkla doğru orantılı
- Tercihen CR, PR belki de SD hastalarda denenebilir mi?

JOURNAL OF CLINICAL ONCOLOGY
Official Journal of the American Society of Clinical Oncology

Role of Radiation Therapy in the Combined-Modality Treatment of Patients With Extensive Disease Small-Cell Lung Cancer: A Randomized Study

By Branislav Jeremic, Yuta Shibamoto, Nebojsa Nikolic, Biljana Milicic, Slobodan Milisavljevic, Aleksandar Dagovic, Jasna Aleksandrovic, and Gordana Radosavljevic-Asic

Purpose: **To investigate the efficacy and toxicity of cisplatin/etoposide (PE) chemotherapy (CHT) with or without accelerated hyperfractionated radiation therapy (ACC HFX RT) and concurrent daily carboplatin/etoposide (CE) in patients with extensive-disease small-cell lung cancer.**

Patients and Methods: **A total of 210 patients were treated with three cycles of standard PE. Patients with a complete response (CR) at both the local and distant levels (CR/CR) or a partial response (PR) at the local level and CR at the distant level (PR/CR) received either thoracic ACC HFX RT with 54 Gy in 36 fractions over 18 treatment days in combination with CE followed by two cycles of PE (group 1, n = 55) or an additional four cycles of PE (group 2, n = 54). Patients who experienced less response were treated nonrandomly (groups 3, 4, and 5). All patients with a CR at the distant level received prophylactic cranial irradiation.**

Results: **For 206 assessable patients, the median survival time (MST) was 9 months and the 5-year survival rate was 3.4%. Patients in group 1 had significantly better survival rates than those in group 2 (MST, 17 *v* 11 months; 5-year survival rate, 9.1% *v* 3.7%, respectively; *P* = .041). Local control was also better in group 1, but the difference was only marginally not significant (*P* = .062). There was no difference in distant metastasis-free survival between groups 1 and 2. Acute high-grade toxicity was higher in group 2 than in group 1.**

Conclusion: **The addition of ACC HFX RT to the treatment of the most favorable subset of patients led to improved survival over that obtained with CHT alone.**

J Clin Oncol 17:2092-2099.

Role of Radiation Therapy in the Combined-Modality Treatment of Patients With Extensive Disease Small-Cell Lung Cancer: A Randomized Study

By Branislav Jeremic, Yuta Shibamoto, Nebojsa Nikolic, Biljana Milicic, Slobodan Milisavljevic, Aleksandar Dagovic, Jasna Aleksandrovic, and Gordana Radosavljevic-Asic

Table 1. Patient Characteristics

Characteristic	Total of All Patients	Group 1	2	3	4	5	P
Sex							
Male	124	33	32	21	17	21	
Female	82	22	22	13	11	14	.99
Age, years							
Median	59	59	59	58	60	59	.99
Range	38-71	38-70	39-71	41-70	44-69	41-69	
KPS score							
70	31	8	8	7	4	4	.99
80	37	10	10	5	5	7	
90	80	20	23	12	13	12	
100	58	17	13	10	6	12	
Weight loss							
≥ 5%	95	25	23	16	12	19	.85
< 5%	111	30	31	18	16	16	
No. of metastatic sites							
1	97	23	25	18	14	17	.91
2	87	27	23	12	11	14	
3	17	4	5	3	2	3	
4	4	1	1	1	0	1	
5	1	0	0	0	1	0	

Abbreviation: KPS, Karnofsky performance status.

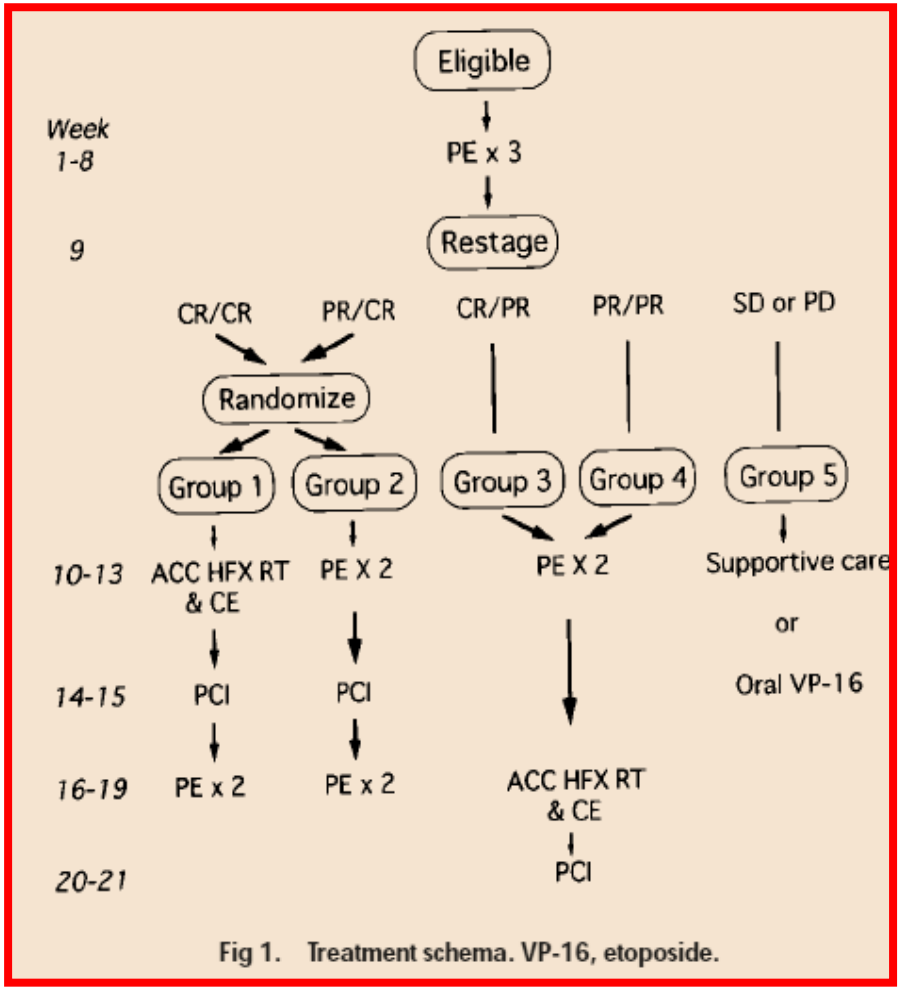


Fig 1. Treatment schema. VP-16, etoposide.

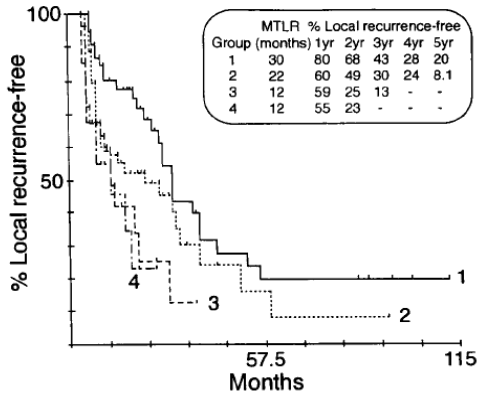


Fig 3. LRFS in group 1 (——), group 2 (- - - -), group 3 (– – – –), and group 4 (- · - · - ·).

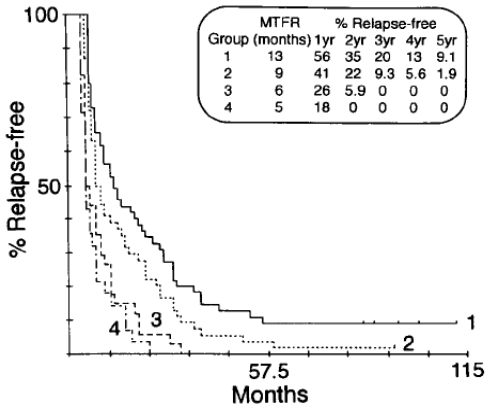


Fig 5. First relapse-free survival in group 1 (——), group 2 (- - - -), group 3 (– – – –), and group 4 (- · - · - ·).

Table 2. Response at Local Level in Groups 1 and 2 After Week 9

	Week 9		Week 15		Week 21	
Group	No. of Patients/ Total No. of Patients	%	No. of Patients/ Total No. of Patients	%	No. of Patients/ Total No. of Patients	%
1	26/55	47	53/55	96	53/55	96
2	24/54	44	33/54	61	35/53*	66
P	.77		.000007		.00005	

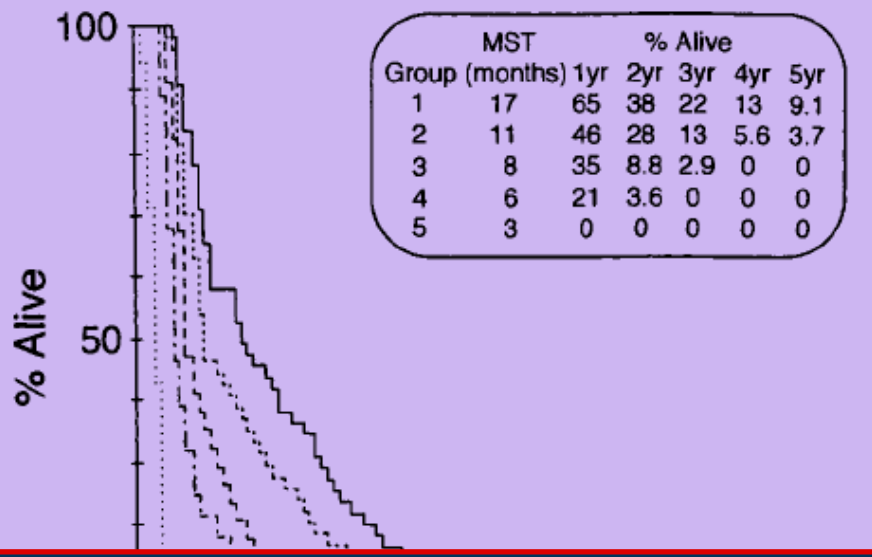
NOTE. All patients in groups 1 and 2 had CR at the distant level.
*One patient in group 2 had died of toxicity by week 21.

Table 3. Acute High-Grade Toxicity

	Grade 3		Grade 4		Grade 5			
Toxicity/Group	No. of Patients	%	No. of Patients	%	No. of Patients	%		*P*
Leukopenia								
1	17	31	7	13	—		1 *v* 2	.18
2	22	40	11	20	—		All	.33
3	12	36	4	12	—			
4	10	36	4	14	—			
5	11	31	11	31	—			
Thrombocytopenia								
1	9	16	6	11	—		1 *v* 2	.23
2	15	27	8	14	—		All	.81
3	6	18	3	9	—			
4	5	18	3	11	—			
5	9	26	4	11	—			
Anemia								
1	3	5	3	5	—		1 *v* 2	.39
2	5	9	6	11	—		All	.21
3	2	6	2	6	—			
4	1	4	1	4	—			
5	7	20	1	6	—			
Infection								
1	7	13	5	9	1	2	1 *v* 2	.64
2	11	20	5	9	2	4	All	.048
3	4	12	2	6	1	3		
4	5	18	1	4	1	4		
5	1	3	—		6	17		
Nausea and vomiting								
1	2	4	3	5	—		1 *v* 2	.0038
2	11	20	8	14	—		All	.0076
3	3	9	1	3	—			
4	1	94	1	4	—			
5	7	20	1	3	—			
Alopecia								
1	5	99	2	4	—		1 *v* 2	.000003
2	20	36	12	22	—		All	.000003
3	4	12	1	3	—			
4	2	7	1	4	—			
5	7	20	5	14	—			
Kidney								
1	—		—		—		1 *v* 2	.0010
2	11	20	1	2	—		All	.000019
3	—		—		—			
4	—		—		—			
5	—		—		—			
Esophageal								
1	11	20	4	7	—		1 *v* 2	.00020
2	—		—		—		All	.00023
3	8	24	2	6	—			
4	6	21	1	4	—			
5	—		—		—			
Bronchopulmonary								
1	3	5	—		—		1 *v* 2	.082
2	—		—		—		All	.28
3	2	6	—		—			
4	1	4	—		—			
5	—		—		—			

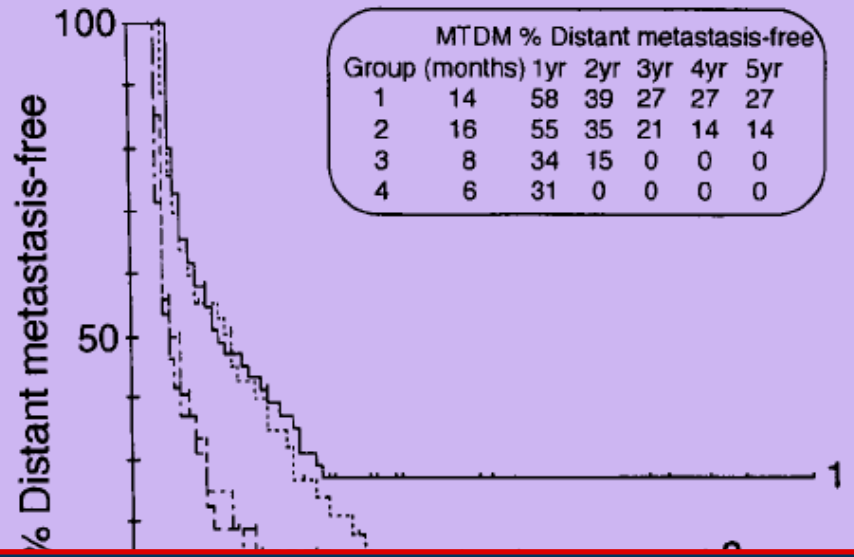
Role of Radiation Therapy in the Combined-Modality Treatment of Patients With Extensive Disease Small-Cell Lung Cancer: A Randomized Study

By Branislav Jeremic, Yuta Shibamoto, Nebojsa Nikolic, Biljana Milicic, Slobodan Milisavljevic, Aleksandar Dagovic, Jasna Aleksandrovic, and Gordana Radosavljevic-Asic



Group	MST (months)	% Alive 1yr	2yr	3yr	4yr	5yr
1	17	65	38	22	13	9.1
2	11	46	28	13	5.6	3.7
3	8	35	8.8	2.9	0	0
4	6	21	3.6	0	0	0
5	3	0	0	0	0	0

Fig 2. Overall survival in group 1 (——), group 2 (- - - -), group 3 (– – – –), group 4 (- · - · - ·), and group 5 (· · · · ·).



Group	MTDM (months)	% Distant metastasis-free 1yr	2yr	3yr	4yr	5yr
1	14	58	39	27	27	27
2	16	55	35	21	14	14
3	8	34	15	0	0	0
4	6	31	0	0	0	0

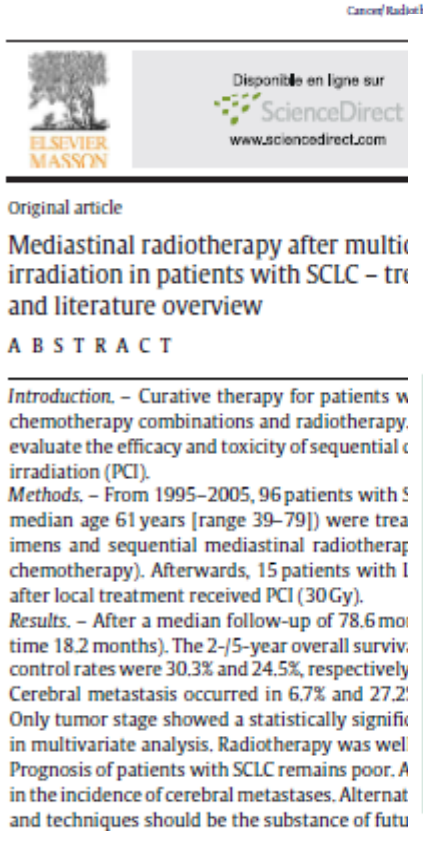
Fig 4. DMFS in group 1 (——), group 2 (- - - -), group 3 (– – – –), and group 4 (- · - · - ·).

Konsolidasyon TRT ilave 4 kür PE'den daha etkin ve sağ kalımı uzatıyor

Medyan OS: 17 vs. 11 ay

5-y OS : %9.1 vs. %3.7

Yeni Konsolidasyon TRT Çalışmaları



Cancer/Radiothérapie 15 (2011) 81–88

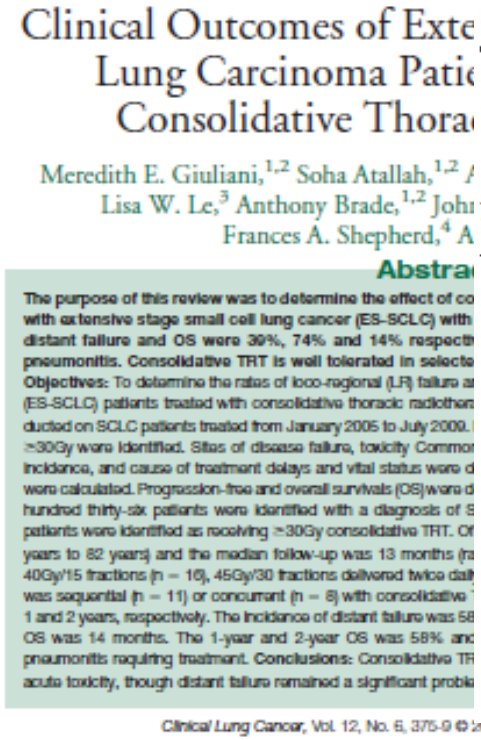
Disponible en ligne sur ScienceDirect www.sciencedirect.com

Original article

Mediastinal radiotherapy after multi
irradiation in patients with SCLC – tr
and literature overview

ABSTRACT

Introduction. – Curative therapy for patients w
chemotherapy combinations and radiotherapy.
evaluate the efficacy and toxicity of sequential
irradiation (PCI).
Methods. – From 1995–2005, 96 patients with
median age 61 years [range 39–79]) were trea
imens and sequential mediastinal radiotherap
chemotherapy). Afterwards, 15 patients with
after local treatment received PCI (30 Gy).
Results. – After a median follow-up of 78.6 mo
time 18.2 months). The 2-/5-year overall surviv
control rates were 30.3% and 24.5%, respectively
Cerebral metastasis occurred in 6.7% and 27.2
Only tumor stage showed a statistically signifi
in multivariate analysis. Radiotherapy was wel
Prognosis of patients with SCLC remains poor.
in the incidence of cerebral metastases. Alternat
and techniques should be the substance of futu



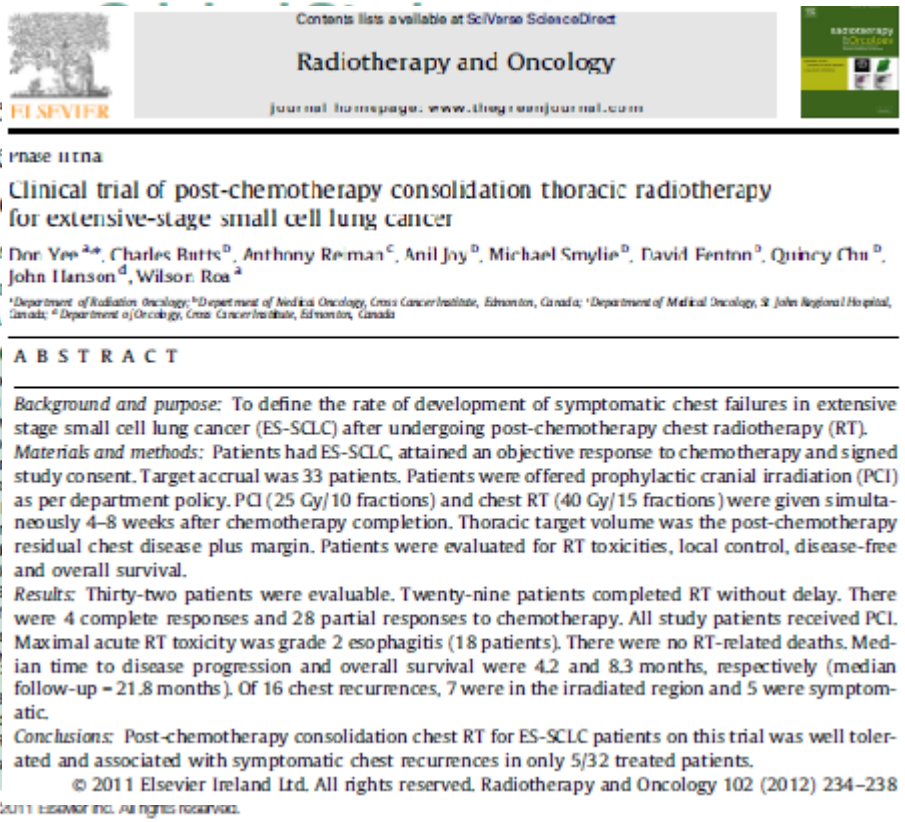
Clinical Outcomes of Exte
Lung Carcinoma Patie
Consolidative Thora

Meredith E. Giuliani,[1,2] Soha Atallah,[1,2]
Lisa W. Le,[3] Anthony Brade,[1,2] John
Frances A. Shepherd,[4] A

Abstra

The purpose of this review was to determine the effect of co
with extensive stage small cell lung cancer (ES-SCLC) with
distant failure and OS were 39%, 74% and 14% respecti
pneumonitis. Consolidative TRT is well tolerated in selecte
Objectives: To determine the rates of loco-regional (LR) failure a
(ES-SCLC) patients treated with consolidative thoracic radiother
ducted on SCLC patients treated from January 2005 to July 2009.
≥30Gy were identified. Sites of disease failure, toxicity Commor
incidence, and cause of treatment delays and vital status were
were calculated. Progression-free and overall survivals (OS) were
hundred thirty-six patients were identified with a diagnosis of S
patients were identified as receiving ≥30Gy consolidative TRT. Of
years to 82 years) and the median follow-up was 13 months (
40Gy/15 fractions (n = 16), 45Gy/30 fractions delivered twice dail
was sequential (n = 11) or concurrent (n = 6) with consolidative
1 and 2 years, respectively. The incidence of distant failure was 58
OS was 14 months. The 1-year and 2-year OS was 58% and
pneumonitis requiring treatment. Conclusions: Consolidative TR
acute toxicity, though distant failure remained a significant proble

Clinical Lung Cancer, Vol. 12, No. 6, 375-9 © 2011 Elsevier Inc. All rights reserved.



Contents lists available at SciVerse ScienceDirect

Radiotherapy and Oncology

journal homepage: www.thegreenjournal.com

Phase III trial

Clinical trial of post-chemotherapy consolidation thoracic radiotherapy for extensive-stage small cell lung cancer

Don Yee[a,*], Charles Butts[b], Anthony Reiman[c], Anil Joy[b], Michael Smylie[b], David Fenton[b], Quincy Chu[b], John Hanson[d], Wilson Roa[a]

[a]Department of Radiation Oncology; [b]Department of Medical Oncology, Cross Cancer Institute, Edmonton, Canada; [c]Department of Medical Oncology, St. John Regional Hospital, Canada; [d]Department of Oncology, Cross Cancer Institute, Edmonton, Canada

ABSTRACT

Background and purpose: To define the rate of development of symptomatic chest failures in extensive stage small cell lung cancer (ES-SCLC) after undergoing post-chemotherapy chest radiotherapy (RT).
Materials and methods: Patients had ES-SCLC, attained an objective response to chemotherapy and signed study consent. Target accrual was 33 patients. Patients were offered prophylactic cranial irradiation (PCI) as per department policy. PCI (25 Gy/10 fractions) and chest RT (40 Gy/15 fractions) were given simultaneously 4–8 weeks after chemotherapy completion. Thoracic target volume was the post-chemotherapy residual chest disease plus margin. Patients were evaluated for RT toxicities, local control, disease-free and overall survival.
Results: Thirty-two patients were evaluable. Twenty-nine patients completed RT without delay. There were 4 complete responses and 28 partial responses to chemotherapy. All study patients received PCI. Maximal acute RT toxicity was grade 2 esophagitis (18 patients). There were no RT-related deaths. Median time to disease progression and overall survival were 4.2 and 8.3 months, respectively (median follow-up = 21.8 months). Of 16 chest recurrences, 7 were in the irradiated region and 5 were symptomatic.
Conclusions: Post-chemotherapy consolidation chest RT for ES-SCLC patients on this trial was well tolerated and associated with symptomatic chest recurrences in only 5/32 treated patients.

 Radiotherapy and Oncology 102 (2012) 234–238

1999- Jeremic datasını destekleyen sonuçlar

Sonuçları Beklenen Grup Çalışmaları

RTOG 0937

Randomized Phase II Study Comparing Prophylactic Cranial Irradiation Alone to Prophylactic Cranial Irradiation and Consolidative Extra-Cranial Irradiation for Extensive Disease Small Cell Lung Cancer (ED-SCLC)

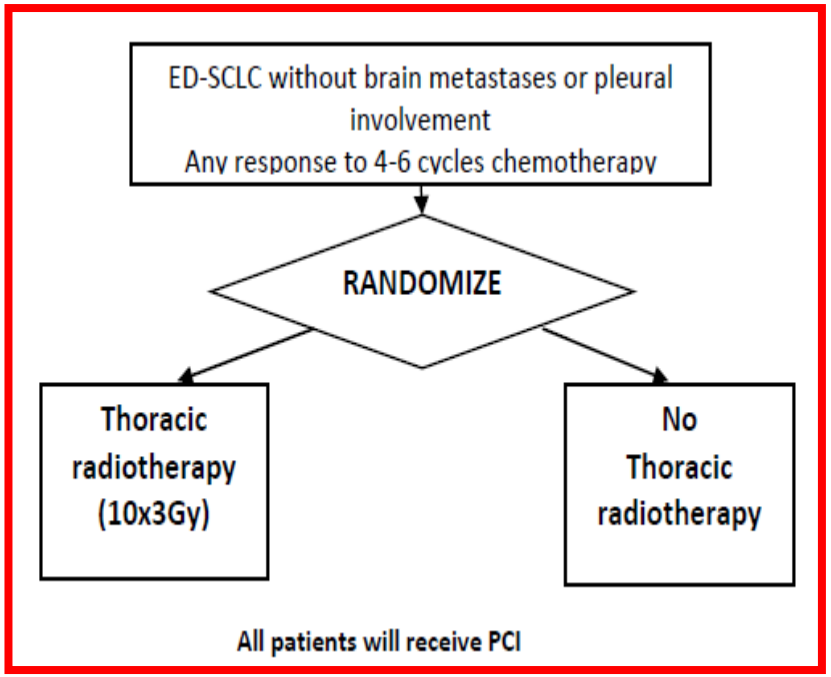
SCHEMA (10/21/11)

S	**Response to Treatment**	R	**Arm 1: Prophylactic Cranial Irradiation**
T	1. Complete Response (CR)	A	2.5 Gy per fraction for a total of 25 Gy
R	2. Partial Response (PR)	N	
A		D	**Arm 2: Prophylactic Cranial Irradiation**
T		O	2.5 Gy per fraction for a total of 25 Gy
I	**Number of Metastatic Lesions**	M	and
F	1. 1	I	**Consolidative Radiation to**
Y	2. 2-4	Z	**Locoregional and Residual Metastatic Disease**
		E	45 Gy at 3 Gy per fraction*
			*Acceptable alternative regimens: 30-40 Gy in 10 fractions

Chest
Radiotherapy
Extensive stage
Small cell lung cancer
Trial

CREST Trial

Randomized trial on chest irradiation in extensive disease small cell lung cancer



KHDAK Oligometastaz ve Oligonükslerinde

Küratif RT

KHDAK Oligometastaz ve Oligonükslerinde RT

- İyi performans: Palyatif kemoterapi ve/veya RT
- Kötü performans: Destekleyici tedavi
- OS: 8-12 ay
- İnsidans: %20 ve görüntülemede iyileşmeyle artıyor
- Sıklıkla oligomet/nüks hastalar yaygın met hastalarla benzer tedaviler alıyor
- Potansiyel ablatif tedavilerle LRPFS, DFS, CSS ve/veya OS uzayabilir mi?
- Ablatif tedavilerin amaçları
  - Oligomet başka met yok Ablate edilirse kür mümkün olabilir
  - Oligomet met odağı. Ablate edilirse başka met gelişmeyebilir
  - Küçük tm yüksek kemoterapi etkisi: Ablate olmasa bile küçülürse etki artar (Norton-Smith Hipotezi-1986)
- Potansiyel ablatif tedaviler %25-30 hastada 5-y OS ile sonuçlanıyor

Destekleyici Kanıtlar Var mı?

JAMA The Journal of the American Medical Association

November 4, 1998, Vol 280, No. 17

Original Contributions

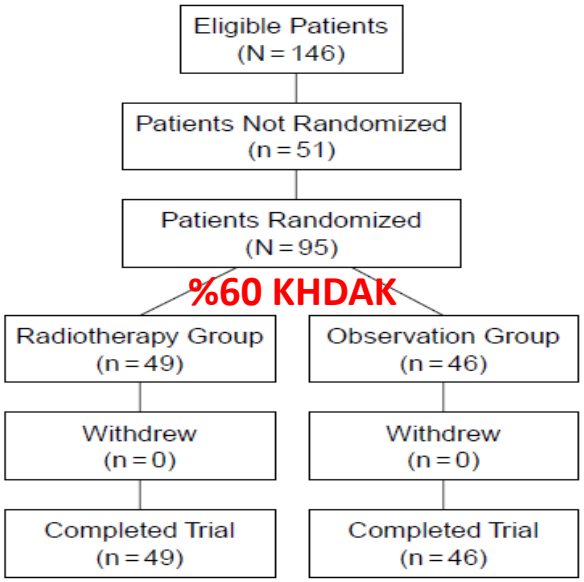
Postoperative Radiotherapy in the Treatment of Single Metastases to the Brain

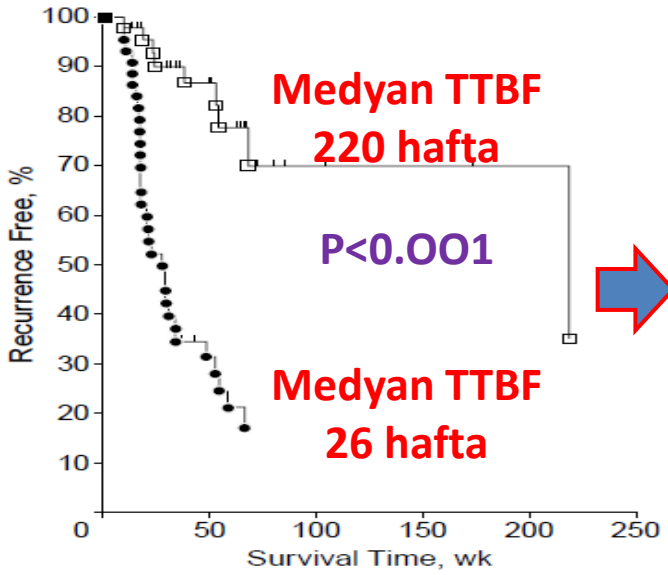
A Randomized Trial

Roy A. Patchell, MD; Phillip A. Tibbs, MD; William F. Regine, MD; Robert J. Dempsey, MD; Mohammed Mohiuddin, MD; Richard J. Kryscio, PhD; William R. Markesbery, MD; Kenneth A. Foon, MD; Byron Young, MD

Location of Recurrence of Metastatic Cancer in the Brain

Recurrence	No. (%) Observation Group (n = 46)	Radiation Group (n = 49)
None	14 (30)	40 (82)
Original only*	15 (33)	2 (4)
Original and distant†	6 (13)	3 (6)
Distant only	11 (24)	4 (8)





Beyin met. hastalarda 15 hf OS burada 40 haftaya çıkmış

Adrenal met. rezeksiyonu veya SBRT

- KHDAK: Otopsi serilerinde %40+
- Genellikle diğer uzak met+
- Retroperitoneal lenfatik akımla gelebilir (Rejyonel hastalık)
- Twomey ve ark-1982-JAMA
  - Large cell KHDAK, 2 hastada adrenalektomi sonrası 6 ve 14 yıl DFS

VOLUME 26 · NUMBER 7 · MARCH 1 2008

JOURNAL OF CLINICAL ONCOLOGY

REVIEW ARTICLE

Outcomes of Adrenalectomy for Isolated Synchronous Versus Metachronous Adrenal Metastases in Non–Small-Cell Lung Cancer: A Systematic Review and Pooled Analysis

Tawee Tanvetyanon, Lary A. Robinson, Michael J. Schell, Vivian E. Strong, Rachna Kapoor, Daniel G. Coit, and Gerold Bepler

VOLUME 26 · NUMBER 7 · MARCH 1 2008

JOURNAL OF CLINICAL ONCOLOGY REVIEW ARTICLE

Outcomes of Adrenalectomy for Isolated Synchronous Versus Metachronous Adrenal Metastases in Non–Small-Cell Lung Cancer: A Systematic Review and Pooled Analysis

Tawee Tanvetyanon, Lary A. Robinson, Michael J. Schell, Vivian E. Strong, Rachna Kapoor, Daniel G. Coit, and Gerold Bepler

ABSTRACT

Purpose

Several small studies have reported that an adrenalectomy for isolated adrenal metastasis in non–small-cell lung cancer (NSCLC), along with a surgical resection for the primary lung cancer, can be curative. However, some suggest that the survival outcome among patients with a synchronous metastasis is poor. It remains unclear whether this treatment approach is warranted among those with synchronous metastasis.

Methods

A search for publications on adrenalectomy for NSCLC was performed via the MEDLINE database. Studies reporting on survival outcomes and containing at least four analyzable patients who had surgery for primary lung cancer were included. Those not allowing separation of outcomes between synchronous and metachronous metastases were excluded. Synchronous metastasis was defined as a disease-free interval (DFI) of 6 months or less.

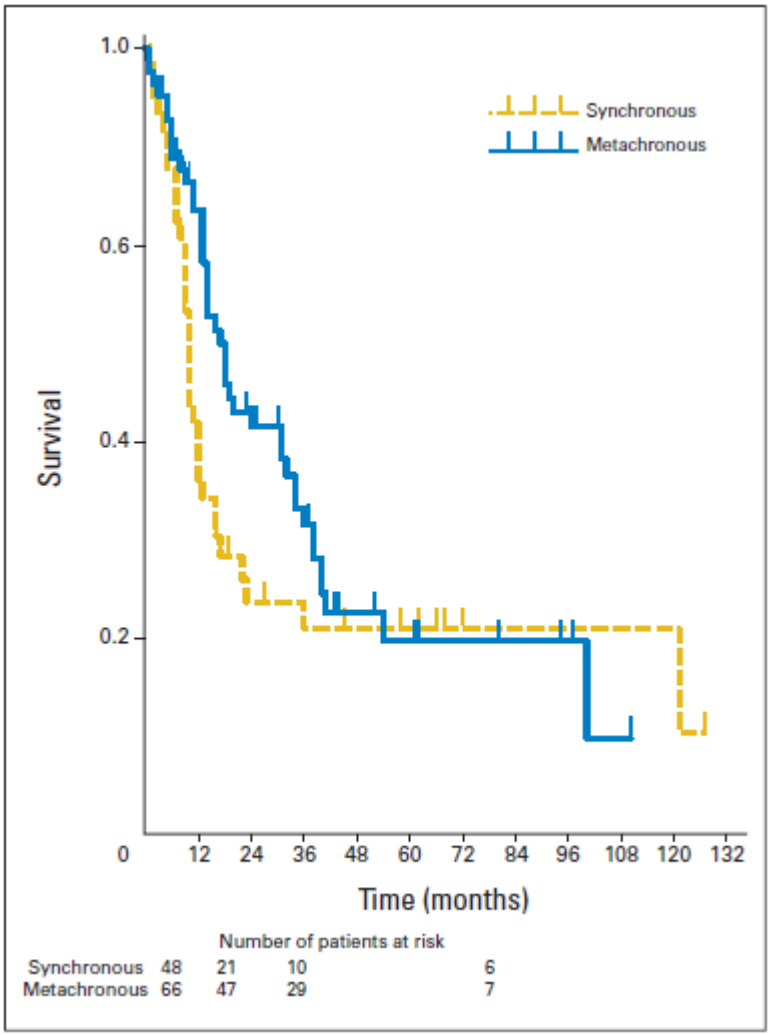
Results

There were 10 publications contributing 114 patients; 42% of patients had synchronous metastases and 58% had metachronous metastases. The median DFIs were 0 and 12 months, respectively. Patients in the synchronous group were younger than those in the metachronous group (median age 54 *v* 68 years). Complications from adrenalectomy were infrequent. Median overall survival was shorter for patients with synchronous metastasis than those with metachronous metastasis (12 months *v* 31 months, generalized Wilcoxon *P* value = .02). However, the 5-year survival estimates were equivalent at 26% and 25%, respectively.

Conclusion

For an isolated adrenal metastasis from NSCLC, patients with a synchronous metastasis who underwent adrenalectomy had a shorter median overall survival than those with a metachronous metastasis. However, a durable long-term survival is achieved in approximately 25% in both groups.

J Clin Oncol 26:1142-1147. © 2008 by American Society of Clinical Oncology



İzole adrenal met eksizyonu sonrası 5-y OS

%25

SBRT kanıtları

Int. J. Radiation Oncology Biol. Phys., Vol. 82, No. 2, pp. 919–923, 2012

0360-3016/$ - see front matter

doi:10.1016/j.ijrobp.2010.11.060

CLINICAL INVESTIGATION **Genitourinary Cancer**

STEREOTACTIC RADIOTHERAPY FOR ADRENAL GLAND METASTASES: UNIVERSITY OF FLORENCE EXPERIENCE

Franco Casamassima, M.D., Ph.D.,* Lorenzo Livi, M.D.,† Stefano Masciullo, M.D.,* Claudia Menichelli, M.D.,* Laura Masi, Ph.D.,* Icro Meattini, M.D.,† Ivano Bonucci, M.D.,* Benedetta Agresti, M.D.,† Gabriele Simontacchi, M.D.,† and Raffaela Doro, Ph.D.*

*Clinical Radiobiological Institute and †Department of Radiation-Oncology, University of Florence, Florence, Italy

Purpose: To evaluate a retrospective single-institution outcome after hypofractionated stereotactic body radiotherapy (SBRT) for adrenal metastases.

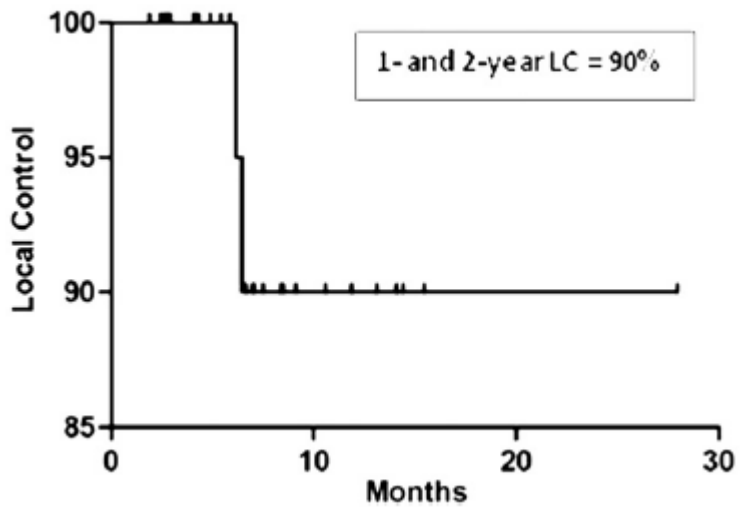
Methods and Materials: Between February 2002 and December 2009, we treated 48 patients with SBRT for adrenal metastases. The median age of the patient population was 62.7 years (range, 43–77 years). In the majority of patients, the prescription dose was 36 Gy in 3 fractions (70% isodose, 17.14 Gy per fraction at the isocenter). Eight patients were treated with single-fraction stereotactic radiosurgery and forty patients with multi-fraction stereotactic radiotherapy.

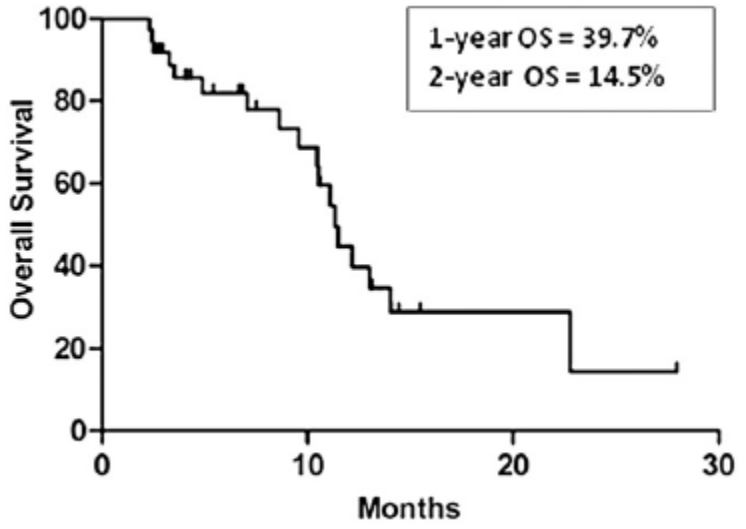
Results: Overall, the series of patients was followed up for a median of 16.2 months (range, 3–63 months). At the time of analysis, 20 patients were alive and 28 patients were dead. The 1- and 2-year actuarial overall survival rates were 39.7% and 14.5%, respectively. We recorded 48 distant failures and 2 local failures, with a median interval to local failure of 4.9 months. The actuarial 1-year disease control rate was 9%; the actuarial 1- and 2-year local control rate was 90%.

Conclusion: Our retrospective study indicated that SBRT for the treatment of adrenal metastases represents a safe

Table 2. Main characteristics of 48 patients treated at University of Florence

Feature	No. of patients (%)
Gender	
Male	30 (62.5)
Female	18 (37.5)
Age (y)	
Mean	62.7
Range	43–77
Primary site	
Lung	24 (50.0)
Colon	12 (25.0)
Melanoma	4 (8.4)
Breast	3 (6.3)
Kidney	3 (6.3)
Uterus	1 (2.0)
Unknown	1 (2.0)
Interval from primary diagnosis to adrenal metastases (mo)	
Median	37.2
Range	0–132
Unilateral adrenal metastasis	
Right	23 (48.0)
Left	15 (31.2)
Bilateral metastasis	10 (20.8)





The Oncologist®

Radiation Oncology

Review and Uses of Stereotactic Body Radiation Therapy for Oligometastases

FILIPPO ALONGI,[a] STEFANO ARCANGELI,[a] ANDREA RICCARDO FILIPPI,[b] UMBERTO RICARDI,[b] MARTA SCORSETTI[a]

Table 4. Summary of published trials of stereotactic body radiation therapy for adrenal metastases

Study	*n* of patients	Median dose/*n* of fractions	Median (range) follow-up, mos	Local control rate	Overall survival	Toxicity
Casamassima et al. [26]	48	36 Gy/3	16.2 (3–63)	1–2 yrs, 90%	1-yr, 39.7%; 2-yr, 14.5%	1 case of grade II adrenal insufficiency
Chawla et al. [24]	30	40 Gy/10	9.8 (3.2–28.3)	1-yr, 55%	1-yr, 44%; 2-yr, 25%	Mild grade 1 fatigue and nausea, "common"
Oshiro et al. [25]	19	45 Gy/10	11.5 (5.4–87.8)	Objective response rate, 68%	1-yr, 56%; 2-yr, 33%; 3-yr, 22%	1 grade 2 duodenal ulcer
Holy et al. [54]	18	20 Gy/5 or 40 Gy/8	21	Objective response rate, 77%	Median, 23 mos	–
Torok et al. [55]	7	16 Gy/1 or 27/3	14 (1–60)	1-yr, 63%	Median, 8 mos	–

- Cerrahi SBRT'den daha iyi görünüyor. İlk tercih cerrahi olmalı
- SBRT: 2-y LC: %55-90
- SBRT: 2-Y OS: %25-40

Cerrahi: 5-y sonuçlar benzer

AC oligomet/oligonükslerinde SBRT

The Oncologist

Radiation Oncology

Review and Uses of Stereotactic Body Radiation Therapy for Oligometastases

Filippo Alongi,[a] Stefano Arcangeli,[a] Andrea Riccardo Filippi,[b] Umberto Ricardi,[b] Marta Scorsetti[a]

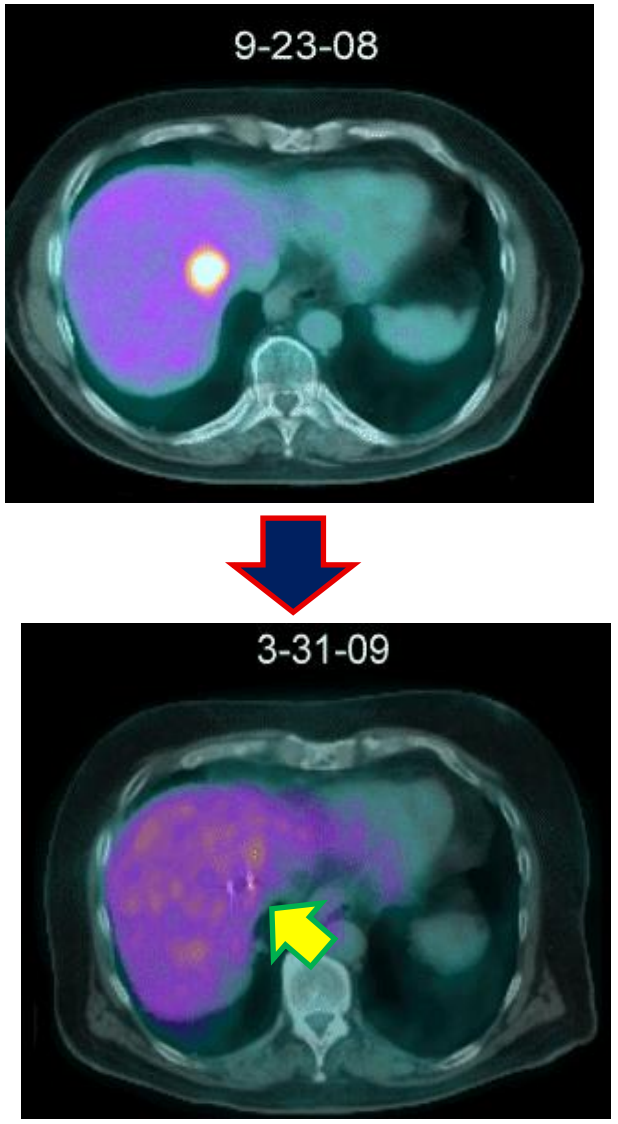
Table 1. Outcomes of stereotactic body radiation therapy for lung metastases from selected trials

Study	*n* of patients	Median dose/*n* of fractions	Median (range) follow-up, mos	Local control rate	Overall survival	Toxicity
Onimaru et al. [5]	45	48 Gy/8; 60 Gy/8	18 (2–44)	3-yr, 69.6% for 48 Gy, 100% for 60 Gy	2-yr, 47.1%	Grade 5, 1 (2.2%)
Wulf et al. [32]	27	30 Gy/3; 36 Gy/3	13–17	2-yr, 71%	1-yr, 48%	Grade 3, 1 (3.7%)
Ricardi et al. [17]	61	45 Gy/3; 26 Gy/1	20.4 (3–77)	2-yr, 89%	2-yr, 66.5	Grade 3, 1 (1.6%)

- Cerrahi hastalar seçilmiş vakalardan oluşsa da SBRT ile sonuçlar benzer
- Yeterli SBRT dozlarında (>52 Gy) 2-3 y LC: %70-100
- SBRT: 2-y OS: %21-84

KHDAK ve KC met

- Sıklıkla AC, meme, GIS kökenli
- Yaygın met bir parçası
- Tek met organı olabilir
- Kolorektal ca hariç genellikle palyatif KT
- Rezeksiyon, SBRT, RFA vs ile bazı hastalarda uzun süreli tm kontrolü, yaşam ve kür mümkün
- Cerrahi vs. gözlem RCT yok



KHDAK ve KC met

- EORTC 40004-COCC Faz II çalışması
  - Kemo+RFA vs. kemo
  - DFS: 17 VS. 10 ay
- ASCO Derlemesi
  - RFA: 5-y OS 14-55%
- Çok merkezli Fransız çalışması: N=1452 non-CRC, non-NE hasta
  - 5-y OS: %36
  - 10-y OS: %23
- SBRT
  - 1-y LC: %70-100, 2-y LC: %60-90
  - Doz ve etkinlik paralellik gösteriyor
  - 48-52 Gy/3 ile >%90 LC mümkün
  - Medyan OS: 10-34 ay
  - 2-y OS: %30-83

KHDAK ve KC met

- Unrezektabl (%80-90) KC met SBRT %60-90 LC ile ümit verici
- KT+SBRT± Hedefe yönelik ajanlarla daha iyi sonuçlar alınabilme potansiyeli yüksek
- PMH Çalışması: SBRT +Sorafenib
- MDACC Ytrium-90 radyoembolizasyon + kemoterapi
- RAS-Trial (SBRT vs. RFA): İlk kafa-kafaya çalışma

KHDAK ve spinal met

Stereotactic body radiotherapy for oligometastases

Alison C Tree, Vincent S Khoo, Rosalind A Eeles, Merina Ahmed, David P Dearnaley, Maria A Hawkins, Robert A Huddart, Cl
Peter J Ostler, Nicholas J van As

Review

Lancet Oncol 2013; 14: e28–37

	Study year	Number of patients (number of lesions)	Dose	Primary site	Treated site(s)	Treated metastasis control	Toxicity
Muacevic et al[67]	2011	40 (64)	20 Gy in 1 fraction (median)	Prostate	Bone (34/64 spine)	2-year control 95·5%	No grade 3 or higher
Wang et al[68]*	2012	149 (166)	27–30 Gy in 3 fractions	Mixed (32% renal)	Spine	72% (median follow-up 15·9 months)	7% grade 3 (non-cardiac chest pain, other pain, nausea, fatigue)
Yamada et al[69]*	2008	93 (103)	18–24 Gy in 1 fraction	Mixed (high proportion of renal-cell carcinoma)	Vertebrae	90% at 15 months	1 acute grade 3 (1%), 1 late grade 3 (1%)
Gerstzen et al[70]*	2007	393 (500)	Mean maximum dose 20 Gy in 1 fraction	Mixed	Vertebrae	88% at median follow-up 21 months (100% for breast and lung primaries, 75% for melanoma)	No significant neurological effects recorded
Zelefsky et al[71]	2011	105 (105)	Varied, but mostly 24 Gy in 1 fraction or 30 Gy in 5 fractions	Renal-cell carcinoma	99% bone metastases	3-year local control 44%, but 88% for 24 Gy in 1 fraction	1 grade 4 skin (1%), 4 fractures (not graded)
Nguyen et al[72]*	2010	48 (55)	24 Gy in 1 fraction, 27 Gy in 3 fractions, or 30 Gy in 5 fractions	Renal-cell carcinoma	Spine (one or two sites)	82% 1-year spine progression-free survival	2% pain, 2% anaemia

*Percentage of patients with oligometastatic disease is not known for these studies.

Table 3: **Stereotactic body radiotherapy for treatment of spinal metastases**

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Filippo Alongi,[a] Stefano Arcangeli,[a] Andrea Riccardo Filippi,[b] Umberto Ricardi,[b] Marta Scorsetti[a]

Table 5. Summary of published trials of stereotactic body radiation therapy for spinal metastases

Study	*n* of patients	Median dose/ *n* of fractions	Median follow-up, mos	Local control rate	Pain response
Yamada et al. [73]	93				NS
Ryu et al. [74]	49			ı)	85%
Sahgal et al. [56]	14			ain)	NS
	25			ain)	NS
Nguyen et al. [75]	48				52%
Tsai et al. [76]	69			g)	Improved pain control, 88%
Chang et al. [58]	63				Narcotic use declined 60% to 36%
Gibbs et al. [77]	74	14–25 Gy/1–5	9	NS	Clinical benefit, 84%
Gerstzen et al. [78]	393	20 Gy/1	21	88% (imaging)	Clinical benefit, 86%

Abbreviation: NS, not significant.

SBRT

- Uzun süreli LC: %72-100
- Ağrı kontrolü: %85

KHDAK’de primer tm ve oligometastazların RT ile konsolidasyonu (Küratif Yaklaşım)

Uzun süreli sağkalım mümkün mü?

Radiotherapy and Oncology 81 (2006) 163–167
www.thegreenjournal.com

Lung cancer

Radiotherapy & Oncology
European Society of Radiotherapy and Oncology

Long term disease-free survival resulting from combined modality management of patients presenting with oligometastatic, non-small cell lung carcinoma (NSCLC)

Atif J. Khan[a], Par S. Mehta[a], Thomas W. Zusag[a], Philip D. Bonomi[b], L. Penfield Faber[c], Susan Shott[b], Ross A. Abrams[a,b,*]

[a]*Department of Radiation Oncology,* [b]*Department of Internal Medicine, Section of Medical Oncology, and* [c]*Department of Surgery, Rush University Medical Center, Chicago, IL, USA*

Abstract

We report outcomes on 23 patients with oligometastastic (1 or 2 sites) NSCLC treated with aggressive local, regional, and systemic treatment. The results suggest that this is a favorable subset of patients who may benefit from such an approach, with a 22% rate of long-term survival. This treatment strategy is a departure from the usual practice of palliative-only therapy for all NSCLC patients presenting with metastatic disease.
 Radiotherapy and Oncology 81 (2006) 163–167.

Keywords: Lung cancer; NSCLC; Oligometastasis; Oligometastases

Table 1
Patient characteristics

Age	⩽65	13
	>65	10
Gender	Male	10
	Female	13
ECOG PS[a]	0	11
	1	12
Weight loss ⩾10%	Y/N	1/22
Metastatic sites	Brain	14
	Intrapulmonary	3
	Adrenals	2
	Bone	2
	Celiac node	1
	Soft tissue	1
T stage	TX	1
	T1	5
	T2	10
	T3	5
	T4	2
N stage	0	3
	1	3
	2	13
	3	4
Chest only stage	IA/IB	1/1
	IIA/IIB	0/3
	IIIA/IIIB	12/6

[a] *Abbreviations:* ECOG PS, = Eeastern Cooperative Oncology Group performance status.

Long term disease-free survival resulting from combined modality management of patients presenting with oligometastatic, non-small cell lung carcinoma (NSCLC)

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Radiotherapy and Oncology 81 (2006) 163–167
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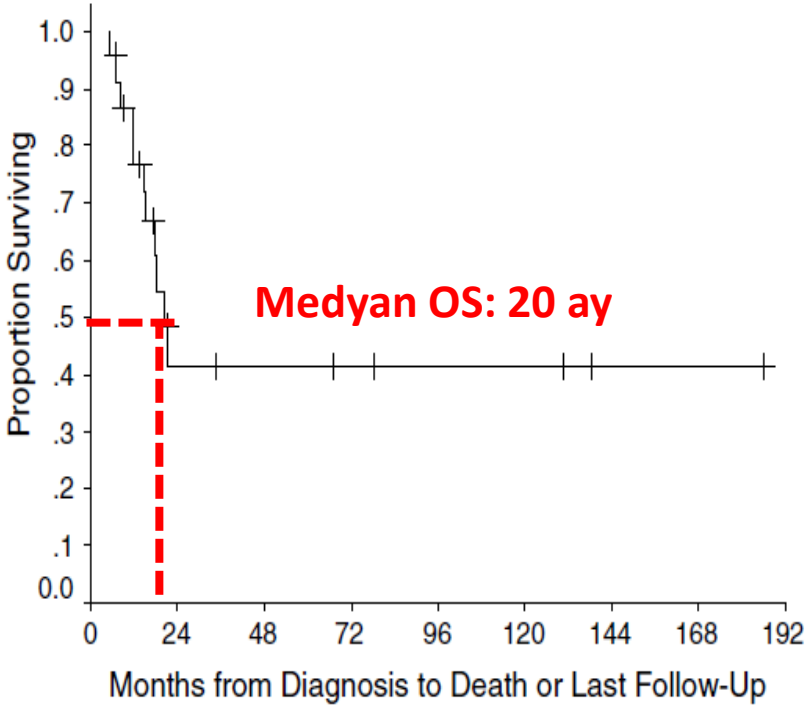

- **Medyan TTR: 12 ay**
- **Medyan TTLR: 30 ay**
- **5 (%22) : Relaps+, sağ**
- **7 (%30): NED yaşıyor**

We report outcomes on 23 patients with oligometastastic (1 or 2 sites) NSCLC treated with aggressive local, regional, and systemic treatment. The results suggest that this is a favorable subset of patients who may benefit from such an approach, with a 22% rate of long-term survival. This treatment strategy is a departure from the usual practice of palliative-only therapy for all NSCLC patients presenting with metastatic disease.

International Journal of
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Clinical Investigation: Metastases

Oligometastases Treated With Stereotactic Body Radiotherapy: Long-Term Follow-Up of Prospective Study

Michael T. Milano, M.D., Ph.D.,* Alan W. Katz, M.D., M.P.H.,* Hong Zhang, Ph.D., M.D.,* and Paul Okunieff, M.D.*,†

**Department of Radiation Oncology, University of Rochester Medical Center, Rochester, NY; and †Department of Radiation Oncology, University of Florida, Gainesville, FL*

Purpose: To analyze the long-term survival and tumor control outcomes after stereotactic body radiotherapy (SBRT) for metastases limited in number and extent.

Methods and Materials: We prospectively analyzed the long-term overall survival (OS) and cancer control outcomes of 121 patients with five or fewer clinically detectable metastases, from any primary site, metastatic to one to three organ sites, and treated with SBRT. Freedom from widespread distant metastasis (FFDM) was defined as metastatic disease not amenable to local therapy (*i.e.*, resection or SBRT). Prognostic variables were assessed using log–rank and Cox regression analyses.

Clinical Investigation: Metastases

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Oligometastases Treated With Stereotactic Body Radiotherapy: Long-Term Follow-Up of Prospective Study

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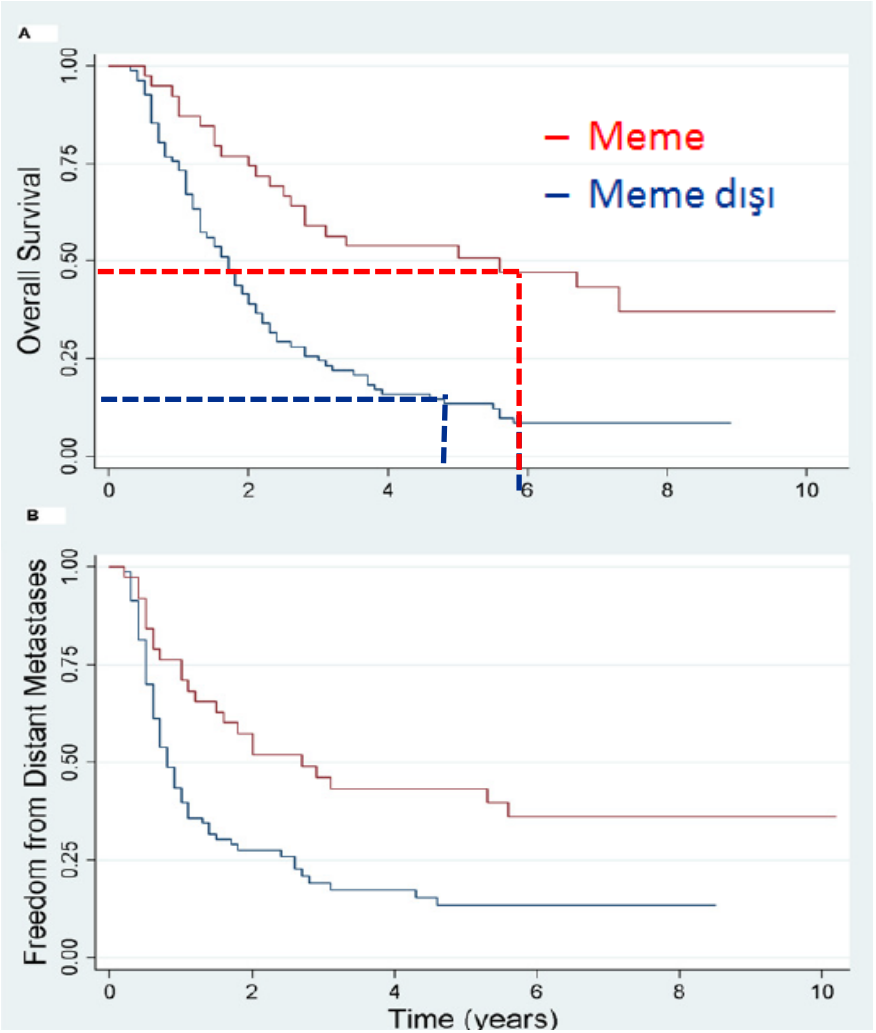

- Meme kanseri sonuçları daha iyi
- Meme dışı tm: Medyan OS 1.7 yıl
- En iyi tedavilerle Evre IIIB KHDAK'de güncel medyan sağkalım 20-26 ay
- 1.7 yıl = 21 ay
- Tm hacmi küçük olanlarda LC ve OS daha iyi

International Journal of Radiation Oncology biology • physics

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Clinical Investigation: Thoracic Cancer

Prognostic Impact of Radiation Therapy to the Primary Tumor in Patients With Non-small Cell Lung Cancer and Oligometastasis at Diagnosis

Jose Luis Lopez Guerra, MD,*,§ Daniel Gomez, MD,* Yan Zhuang, MD,* David S. Hong, BA,* John V. Heymach, MD, PhD,† Stephen G. Swisher, MD,‡ Steven H. Lin, MD, PhD,* Ritsuko Komaki, MD,* James D. Cox, MD,* and Zhongxing Liao, MD*

*Departments of *Radiation Oncology, †Medical Oncology, and ‡Thoracic Surgery, The University of Texas MD Anderson Cancer Center, Houston, Texas; and §Department of Radiation Oncology, Instituto Madrileño de Oncologia/Grupo IMO, Madrid, Spain*

Received Nov 22, 2011, and in revised form Feb 6, 2012. Accepted for publication Feb 24, 2012

Summary

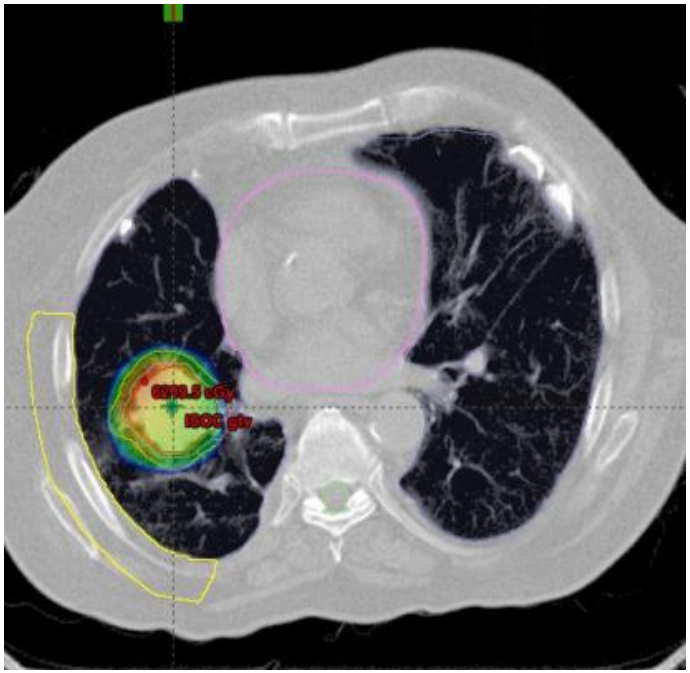
We investigated prognostic factors associated with overall survival in patients with oligometastatic non-small cell lung cancer, including local treatment to the primary tumor site. We found that patients receiving a higher radiation dose to the primary tumor (≥63 Gy), having a lower gross tumor volume (GTV ≤124 cm^3), or having better Karnofsky performance scores (KPS >80) had better outcomes.

Purpose: We investigated prognostic factors associated with survival in patients with non-small cell lung cancer (NSCLC) and oligometastatic disease at diagnosis, particularly the influence of local treatment to the primary site on prognosis.

Methods and Materials: From January 2000 through June 2011, 78 consecutive patients with oligometastatic NSCLC (<5 metastases) at diagnosis underwent definitive chemoradiation therapy (≥45 Gy) to the primary site. Forty-four of these patients also received definitive local treatment for the oligometastases. Survival outcomes were estimated using the Kaplan-Meier method, and risk factors were identified by univariate and multivariate analyses.

Results: Univariate Cox proportional hazard analysis revealed better overall survival (OS) for those patients who received at least 63 Gy of radiation to the primary site ($P = .002$), received definitive local treatment for oligometastasis ($P = .041$), had a Karnofsky performance status (KPS) score >80 ($P = .007$), had a gross tumor volume ≤124 cm^3 ($P = .002$), had adenocarcinoma histology ($P = .002$), or had no history of respiratory disease ($P = .016$). On multivariate analysis, radiation dose, performance status, and tumor volume retained significance ($P = .004$, $P = .006$, and $P < .001$, respectively). The radiation dose also maintained significance when patients with and without brain metastases were analyzed separately.

Conclusions: Tumor volume, KPS, and receipt of at least 63 Gy to the primary tumor are associated with improved OS in patients with oligometastatic NSCLC at diagnosis. Our results suggest that a subset of such patients may benefit from definitive local therapy.



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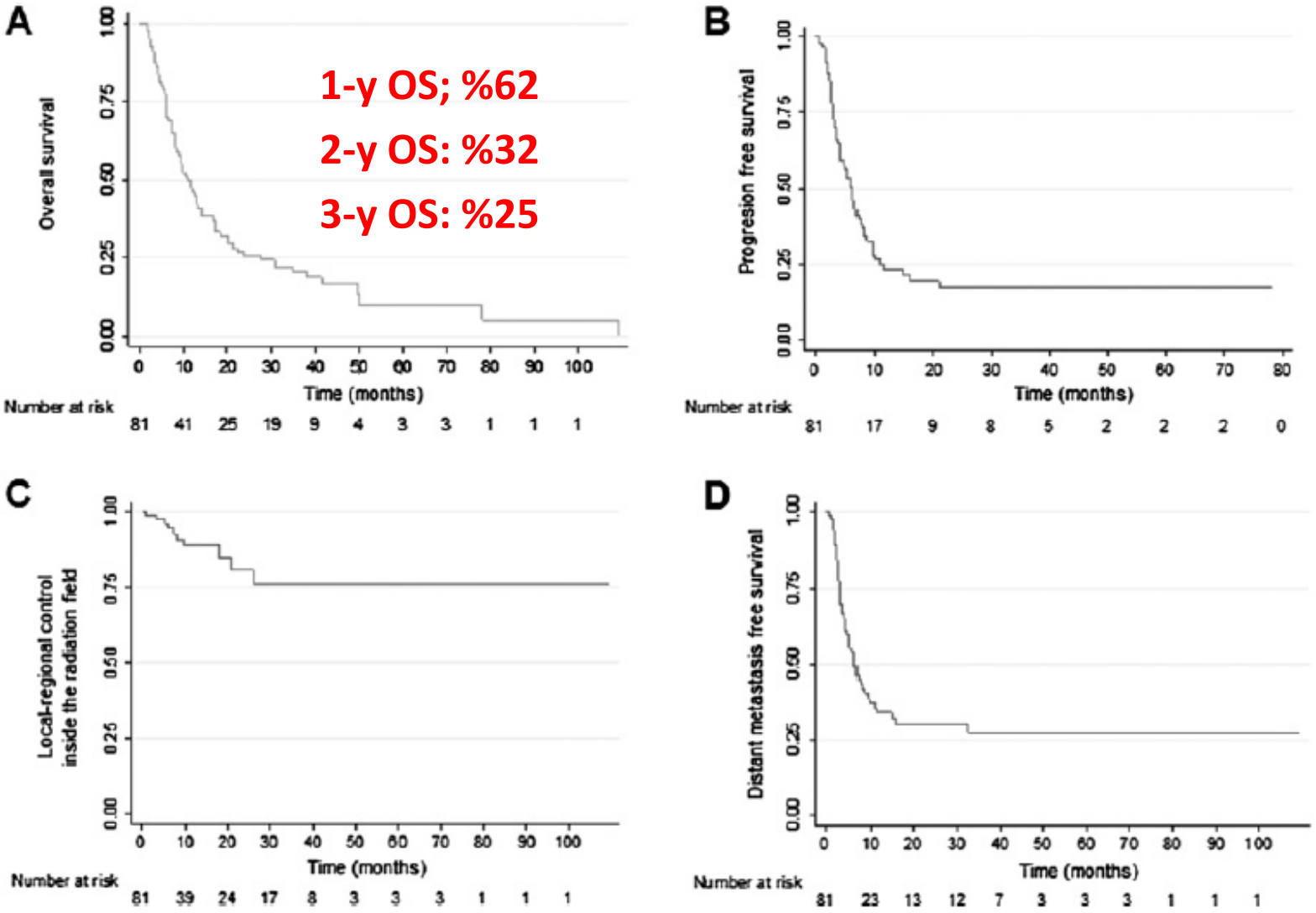

International Journal of Radiation Oncology biology • physics

Prognostic Impact of Radiation Therapy to the Primary Tumor in Patients With Non-small Cell Lung Cancer and Oligometastasis at Diagnosis

Jose Luis Lopez Guerra, MD,*,§ Daniel Gomez, MD,* Yan Zhuang, MD,*

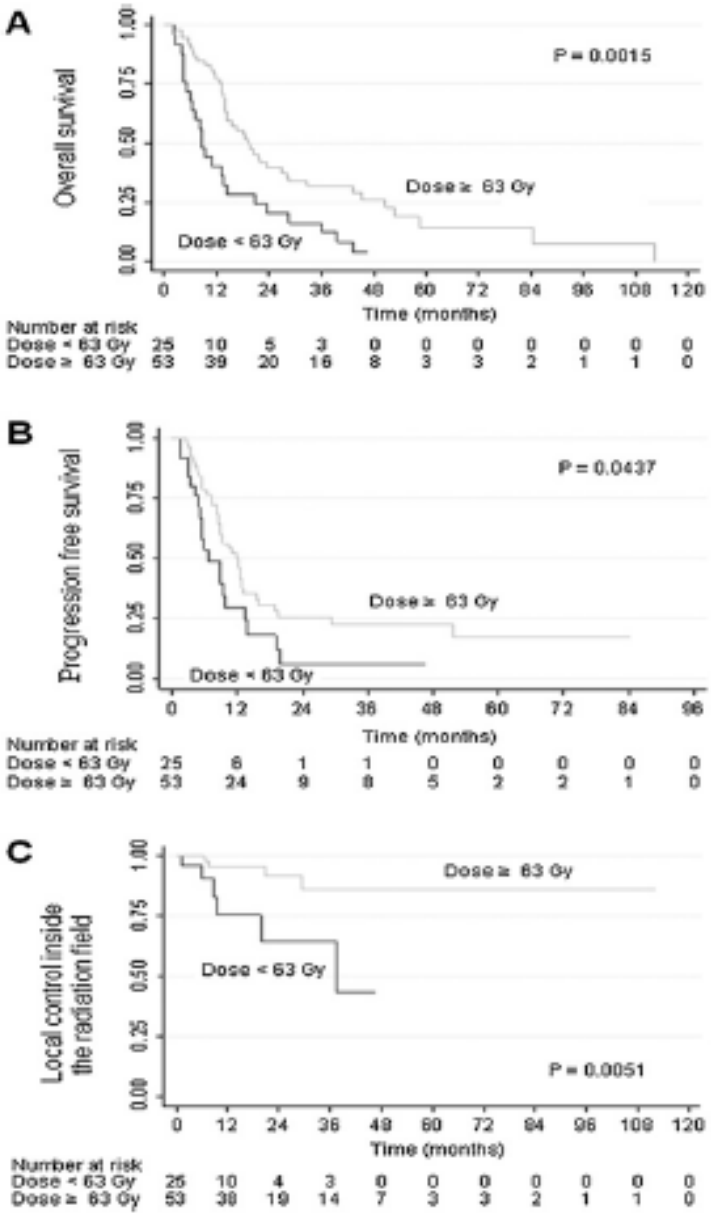

Fig. 2. Overall survival (A), progression-free survival (B), and local-regional control (C) according to the radiation dose to the primary tumor.

Table 3 Factors associated with overall survival and local tumor control in multivariate analyses

	Overall survival		LRC inside the field		LRC inside + outside the field	
Variables	HR	*P* value	HR	*P* value	HR	*P* value
T category						
T1 or T2	-	-	-	-	1.00	-
T3 or T4	-	-	-	-	4.61	.008
Karnofsky performance status						
≤80	1.00	-	-	-	-	-
>80	0.38	.006	-	-	-	-
Gross tumor volume (cm^3)						
≤124	1.00	-	-	-	-	-
>124	2.74	<.001	-	-	-	-
Radiation total dose						
<63 Gy or GyE	1.00	-	1.00	-	-	-
≥63 Gy or GyE	0.44	.004	0.24	.033	-	-

Abbreviations: GyE = cobalt-Gray equivalent; HR = hazard ratio; LRC = local-regional control.

Chang et al. Radiation Oncology 2012, 7:222
http://www.ro-journal.com/content/7/1/222

RADIATION ONCOLOGY

RESEARCH Open Access

Hypofractionated radiotherapy for primary or secondary oligometastatic lung cancer using Tomotherapy

Heng-Jui Chang[1], Hui-Ling Ko[1], Cheng-Yen Lee[1], Ren-Hong Wu[1], Yu-Wung Yeh[2], Jiunn-Song Jiang[2], Shang-Jyh Kao[2] and Kwan-Hwa Chi[1,3*]

Variable	Distribution	Numbers
Sex	Male	24
	Female	9
Age (years)	Range	31-82
	Median	68
Performance Status	0	20
	1	10
	2	3
Primary tumor site	Lung	24
	Mesothelioma	1
	Head and neck	1
	Colorectum	3
	Esophagus	1
	Stomach	1
	Liver	1
	Sarcoma	1
Primary lung cancer	Stage IV	24
Extrapulmonary disease	No	18
	Yes	15
No of total RT targets	1	20
	2	6
	3	3
	4	1
	5	3
Concurrent systemic therapy	No	10
	Yes	23

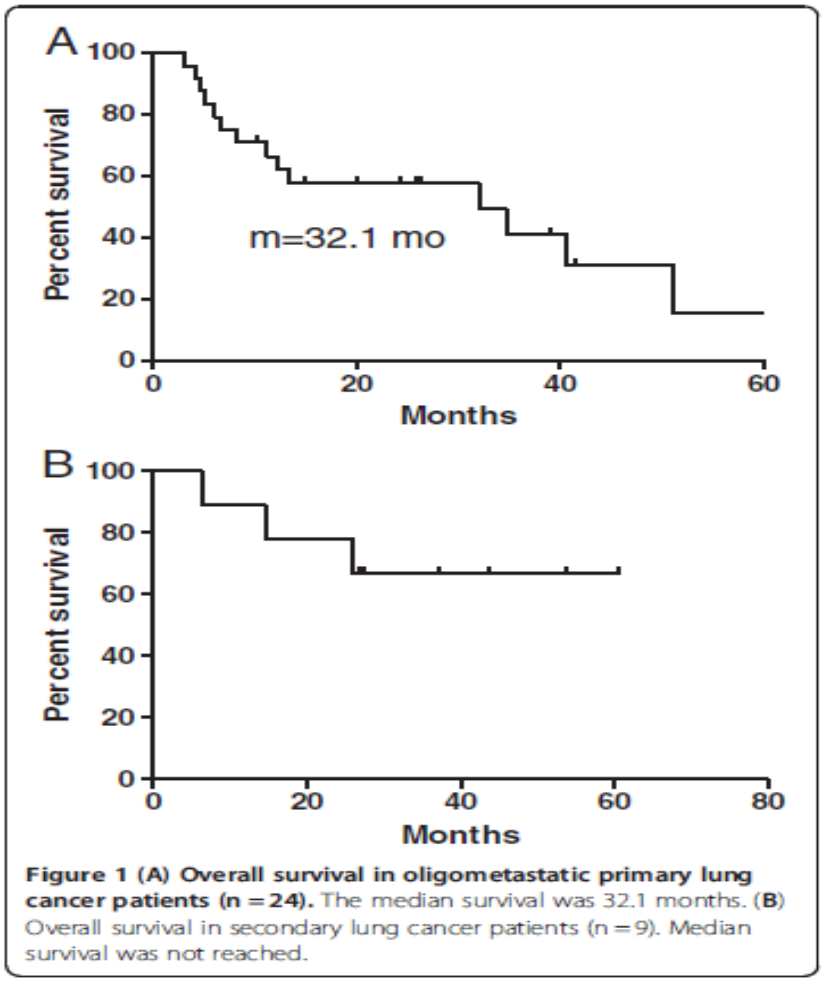

Figure 1 (A) Overall survival in oligometastatic primary lung cancer patients (n = 24). The median survival was 32.1 months. (**B**) Overall survival in secondary lung cancer patients (n = 9). Median survival was not reached.

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(EPD: Extrapulmonary disease)

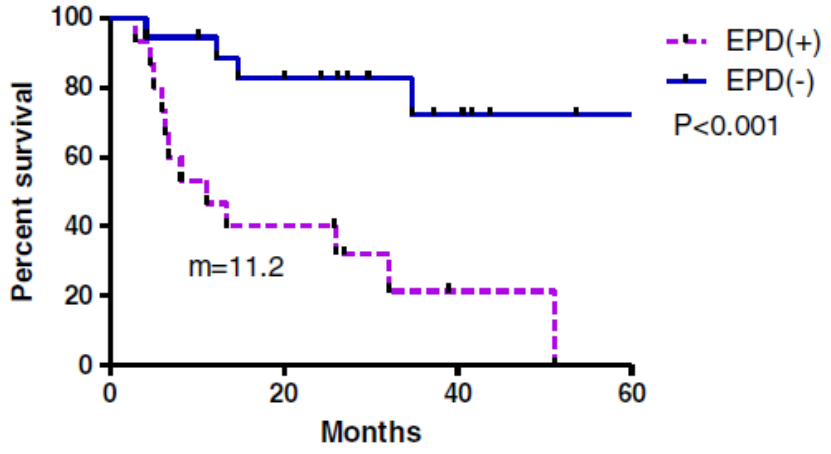

Figure 2 Relationship between EPD status and overall survival rate. The EPD (–) group did not achieve median overall survival, while the overall survival in the EPD (+) group was only 11.2 months ($p < 0.001$).

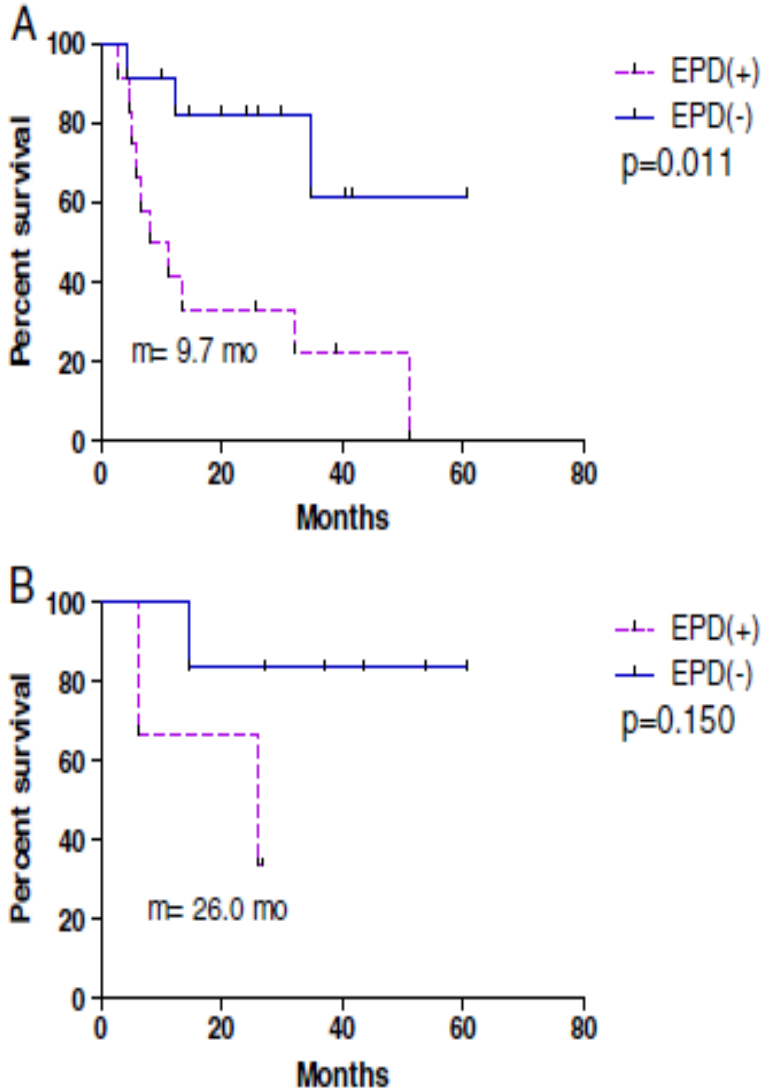

Figure 4 (A) EPD status in primary lung cancer also leads survival difference. EPD(+) vs EPD(–): 9.7 months vs not reached ($p = 0.011$). (**B**) EPD status in secondary lung cancer. EPD(+) vs EPD (–): 26 months vs not reached ($p = 0.150$).

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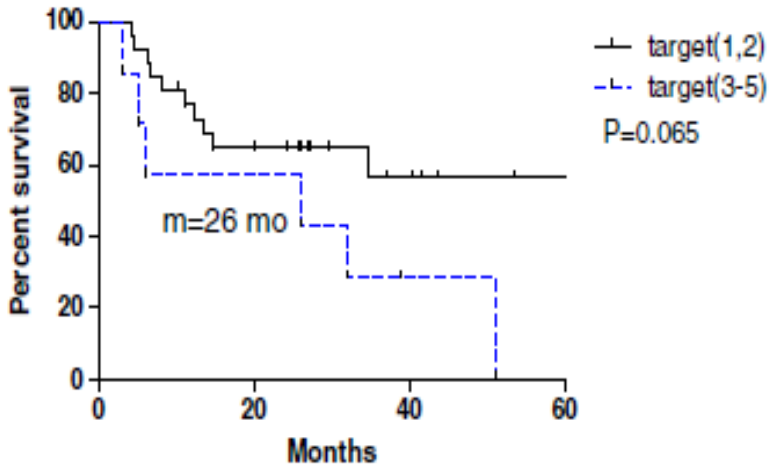

Figure 3 Overall survival difference of 2 and 3 total oligometastatic lesions in all 33 patients. Median survival were undefined and 26 months separately (p = 0.065).

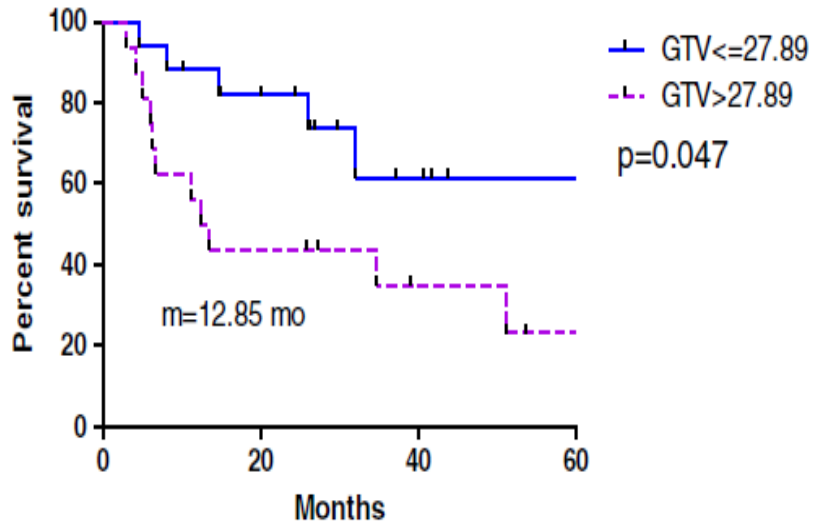

Figure 6 Use GTV volume to predict survival.

Cheruvu et al. Radiation Oncology 2011, 6:80
http://www.ro-journal.com/content/6/1/80

RADIATION ONCOLOGY

RESEARCH Open Access

Comparison of outcomes in patients with stage III versus limited stage IV non-small cell lung cancer

Praveena Cheruvu[1], Su K Metcalfe[1], Justin Metcalfe[1], Yuhchyau Chen[1], Paul Okunieff[2] and Michael T Milano[1*]

Abstract

Background: Standard therapy for metastatic non small cell lung cancer (NSCLC) includes palliative systemic chemotherapy and/or radiotherapy. Recent studies of patients with limited metastases treated with curative-intent stereotactic body radiation therapy (SBRT) have shown encouraging survival. We hypothesized that patients treated with SBRT for limited metastases have comparable outcomes with those treated with curative-intent radiation for Stage III NSCLC.

Methods: We retrospectively reviewed the records of NSCLC patients treated with curative-intent radiotherapy at the University of Rochester from 2000-2008. We identified 3 groups of patients with NSCLC: stage III, stage IV, and recurrent stage IV (initial stage I-II). All stage IV NSCLC patients treated with SBRT had ≤ 8 lesions.

Results: Of 146 patients, 88% had KPS ≥ 80%, 30% had > 5% weight loss, and 95% were smokers. The 5-year OS from date of NSCLC diagnosis for stage III, initial stage IV and recurrent stage IV was 7%, 14%, and 27% respectively. The 5-year OS from date of metastatic diagnosis was significantly ($p < 0.00001$) superior among those with limited metastases (≤ 8 lesions) versus stage III patients who developed extensive metastases not amenable to SBRT (14% vs. 0%).

Conclusion: Stage IV NSCLC is a heterogeneous patient population, with a selected cohort apparently faring better than Stage III patients. Though patients with limited metastases are favorably selected by virtue of more indolent disease and/or less bulky disease burden, perhaps staging these patients differently is appropriate for prognostic and treatment characterization. Aggressive local therapy may be indicated in these patients, though prospective clinical studies are needed.

Keywords: Stereotactic Body Radiotherapy, Oligometastases, Non-Small Cell Lung Cancer

Cheruvu et al. Radiation Oncology 2011, 6:80
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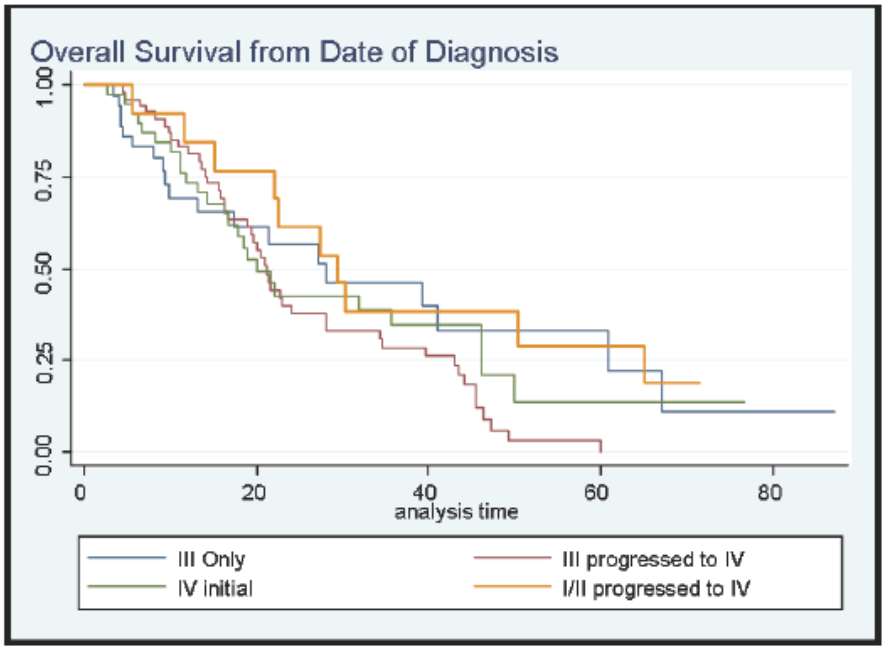

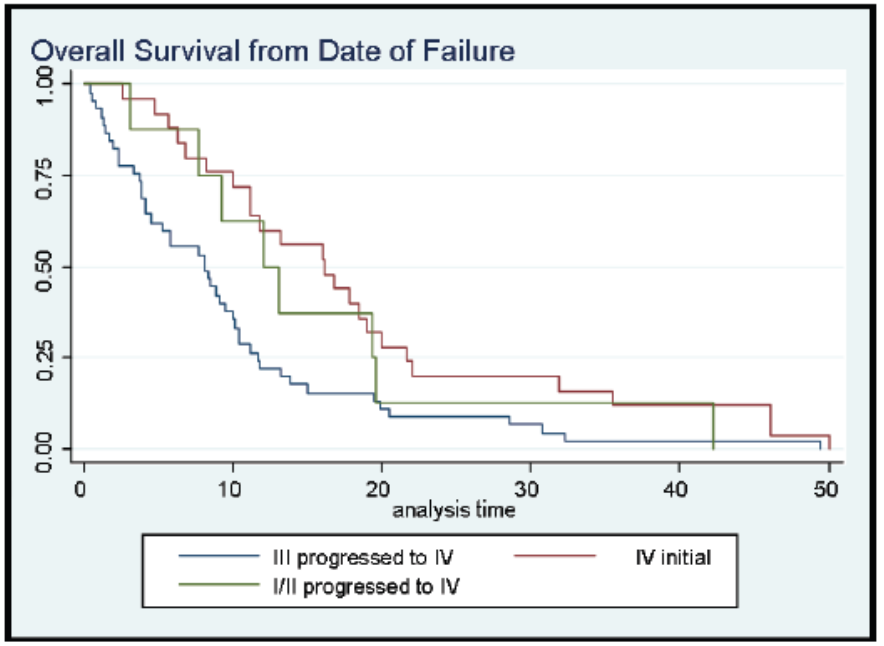

- **Oligometastatik evre IV hastalık prognozu evre III ve evre IV'e progrese hastalıktan daha iyi**

Int. J. Radiation Oncology Biol. Phys., Vol. 81, No. 3, pp. e59–e65, 2011

0360-3016/$ - see front matter

PROSPECTIVE STUDY OF EPIDERMAL GROWTH FACTOR RECEPTOR TYROSINE KINASE INHIBITORS CONCURRENT WITH INDIVIDUALIZED RADIOTHERAPY FOR PATIENTS WITH LOCALLY ADVANCED OR METASTATIC NON–SMALL-CELL LUNG CANCER

JING WANG, M.D., PH.D., TING-YI XIA, M.D., PH.D., YING-JIE WANG, M.D., HONG-QI LI, M.D., PING LI, M.D., JI-DONG WANG, M.D., DONG-SHU CHANG, M.D., LIY-YUAN LIU, M.D., YU-PENG DI, M.D., XUAN WANG, M.D., AND WEI-ZHANG WU, PH.D.

Table 1. Patient characteristics and previous treatment

Variable	*n*	%
Age (y)		
Median	56	–
Range	30–84	–
Gender		
Male	11	42
Female	15	58
Smoking		
Yes	7	27
No	19	73
ECOG PS scores		
0	1	4
1	22	85
2	3	11
AJCC stage		
IIIA	2	8
IIIB	3	11
IV	21	81
Histology		
Adenocarcinoma	19	73
Squamous cell cancer	4	15
Others	3	12
No. of metastatic organs		
0	9	35
1	11	42
2	2	8
3	4	15
Distant metastatic site		
Lung	10	48
Pleural	6	29
Brain	6	29
Bone	3	14
Adrenal gland	2	10
Liver	1	5
Skin	1	5
Previous treatment		
Untreated	9	35
Radiation alone	3	12
Chemotherapy alone	9	35
Combined modality	5	18
Previous chemotherapy regimen		
0	12	46
1	8	30
2	3	12
≥3	3	12
No. of chemotherapy cycles		
0	12	46
1–4	7	27
>4	7	27

PROSPECTIVE STUDY OF EPIDERMAL GROWTH FACTOR RECEPTOR TYROSINE KINASE INHIBITORS CONCURRENT WITH INDIVIDUALIZED RADIOTHERAPY FOR PATIENTS WITH LOCALLY ADVANCED OR METASTATIC NON–SMALL-CELL LUNG CANCER

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Table 2. Selective adverse events for EGFR-TKIs concurrent with individualized radiation in patients with Stage III/IV NSCLC

	Grade 1/2		Grade 3		Grade 4		Total	
Toxicities	*n*	%	*n*	%	*n*	%	*n*	%
Acne-like rashes	20	77	2	8	0	–	22	85
Pruritus	10	38	1	4	0	–	9	42
Esophagitis	6	23	1	4	0	–	7	27
Dysphagia	5	19	0	–	0	–	5	19
Pneumonitis	9	35	1	4	0	–	10	39
Lung fibrosis	3	12	0	–	0	–	3	12
Diarrhea	14	54	1	4	0	–	15	58
Anorexia	11	42	2	8	0	–	13	50
Nausea	14	54	0	–	0	–	14	54
Vomiting	7	27	0	–	0	–	7	27
Fatigue	17	65	1	4	0	–	18	69
Neutropenia	6	23	0	–	1	4	7	27
Anemia	8	31	2	8	0	–	10	38
Thrombocytopenia	1	4	1	4	2	8	4	15
Elevated transaminase	2	8	0	–	0	–	2	8

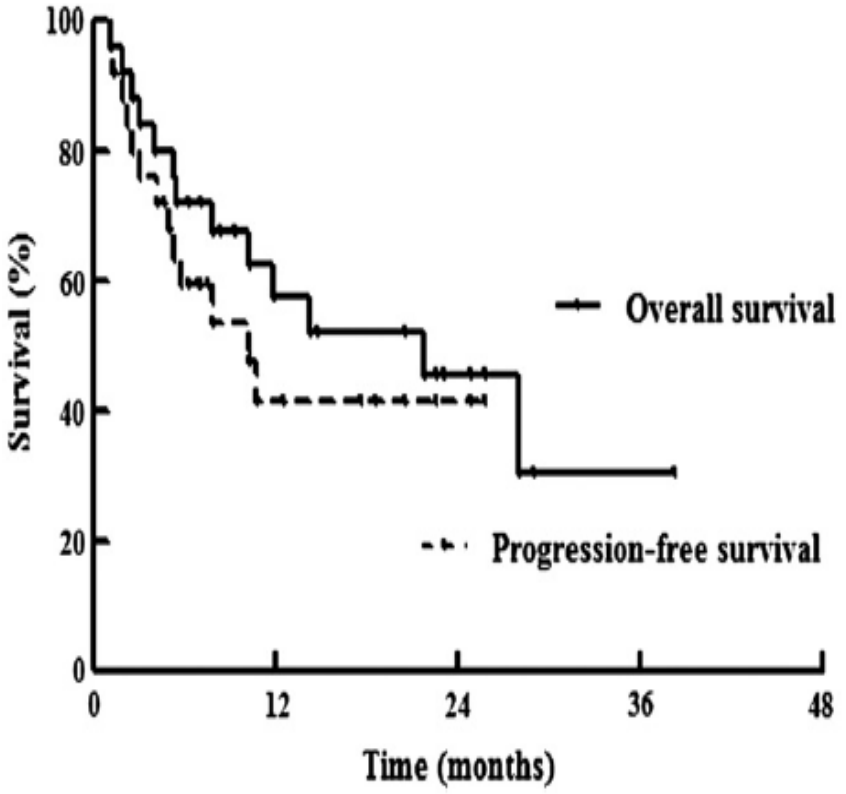

Fig. 1. Overall survival and progression-free survival for all patients.

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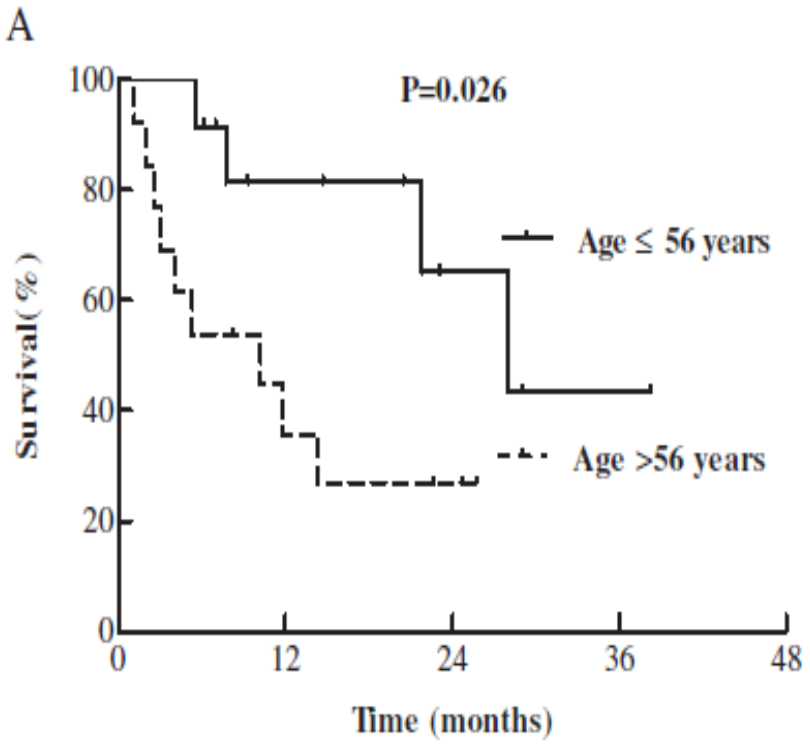

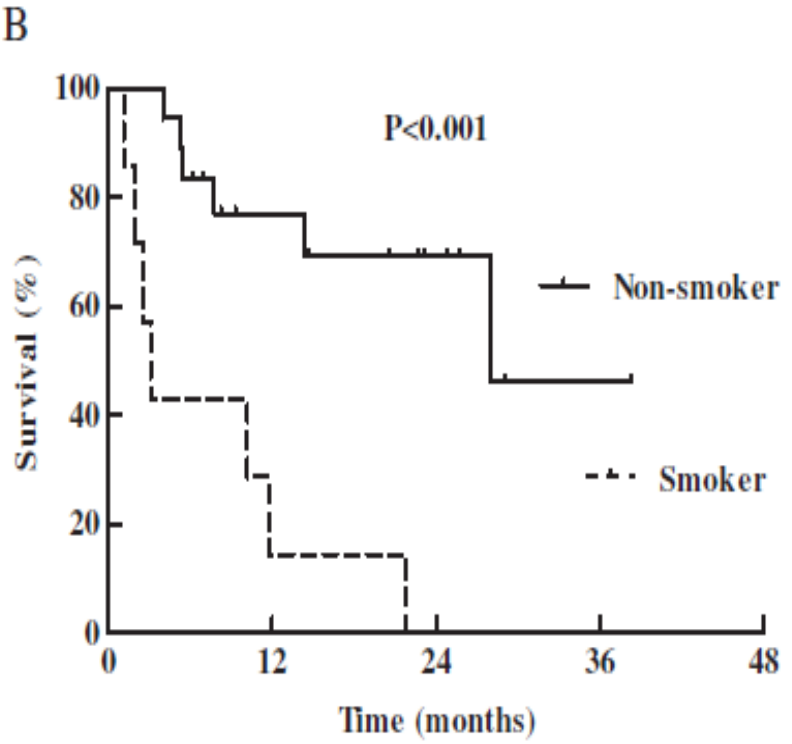

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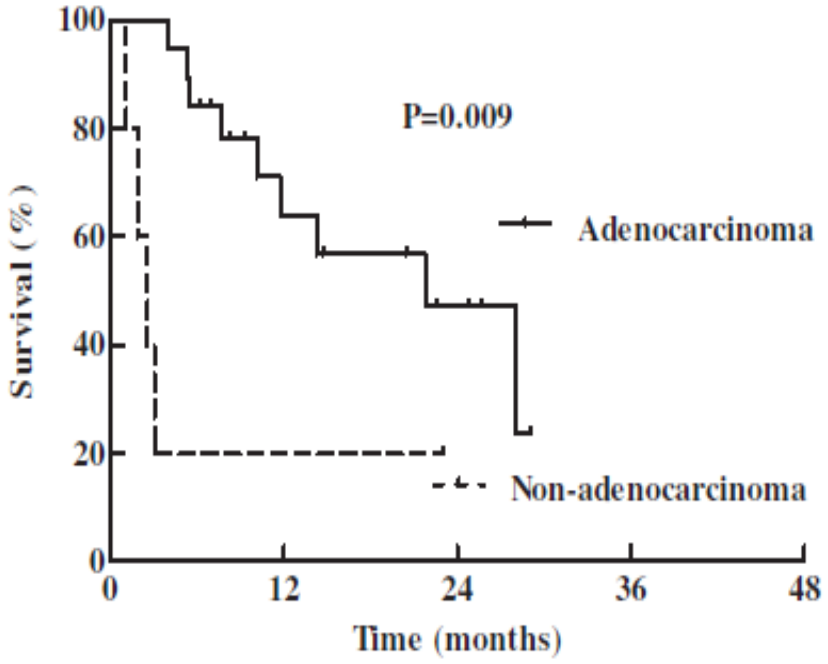

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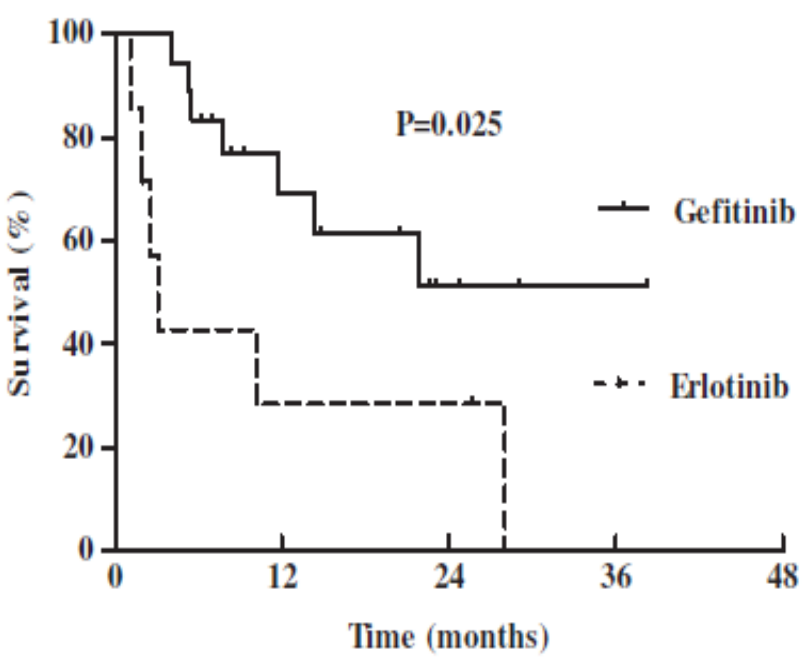

Contents lists available at ScienceDirect

Lung Cancer

journal homepage: www.elsevier.com/locate/lungcan

73, 89–194, 2011

Upfront gefitinib/erlotinib treatment followed by concomitant radiotherapy for advanced lung cancer: A mono-institutional experience

Chih-Chia Chang[a], Kwan-Hwa Chi[a,b,*], Shang-Jyh Kao[c], Pei-Sung Hsu[c], Yuk-Wah Tsang[a], Heng-Jui Chang[a], Yu-Wung Yeh[c], Yei-San Hsieh[d], Jiunn-Song Jiang[c]

Characteristics	No. of patients (n = 25)	%
Sex		
Male	8	32.0
Female	17	68.0
Age (years)		
Median	66	
Range	37–84	
Performance status		
1	25	100
Histology		
Adenocarcinoma	21	84.0
Non-squamous cell carcinoma	4	16.0
Metastatic sites		
Lung to lung	9	36.0
Mediastinal LNs	17	68.0
Brain	3	12.0
Pleural cavity	5	20.0
Bone	10	40.0
Others	8	32.0
Stage		
IIIb	2	8.0
IV	23	92.0
Initial TKI		
E	10	40.0
G	15	60.0

TKI, tyrosine kinase inhibitor; E, erlotinib; G, gefitinib; SCF, supraclavicular; LN, lymph node.

Toxicity	No. of patients (n = 25)			
	Grade 1–2	Grade 3	Grade 4	Grade 5
Dermatology (rash, acne, paronychia)	14	1	0	0
GI tract				
Anorexia	9	0	0	0
Nausea/vomiting	4	0	0	0
Diarrhea	9	1	0	0
Mucositis	4	0	0	0
Esophagitis	5	1	0	0
Hematology				
Anemia	7	1	0	0
Neutropenia	2	2	0	0
Thrombocytopenia	10	2	0	0
Constitutional symptoms				
Myalgia (arthralgia)	3	0	0	0
Fatigue	23	0	0	0
Pulmonary				
Pneumonitis	18	1	0	2

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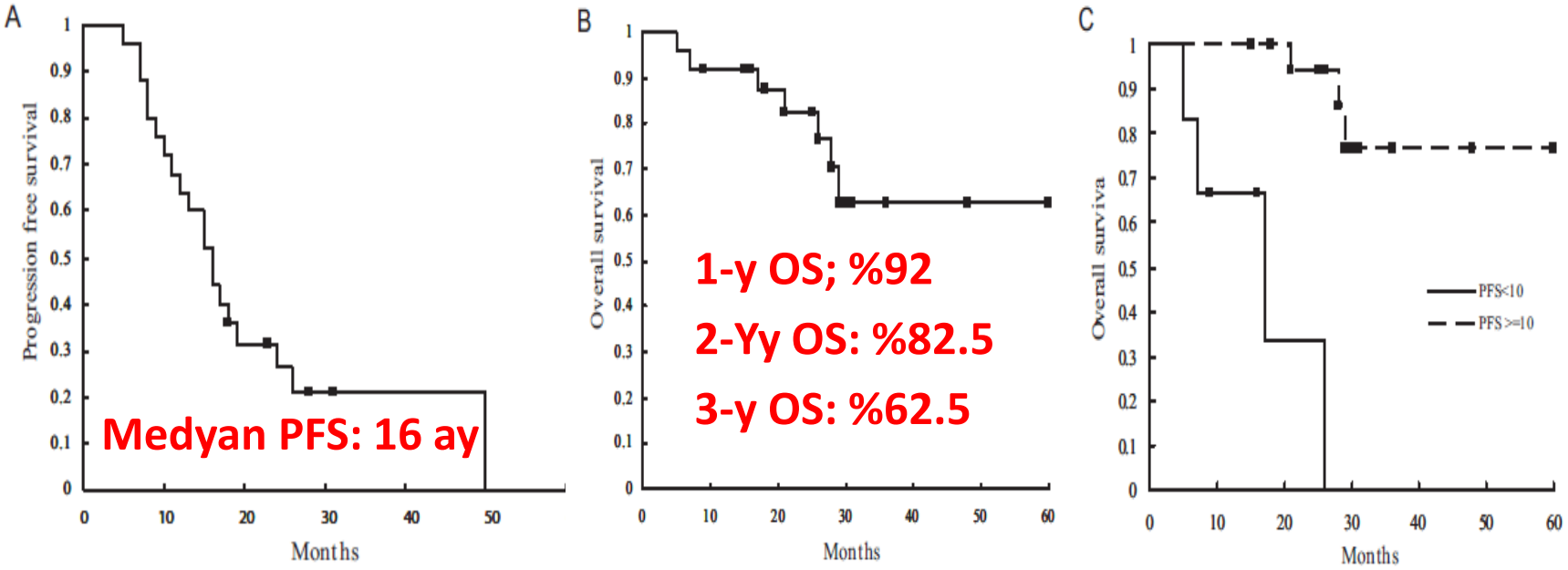

A) Progression-free survival for all patients. The median PFS was 16 months.

B) Overall survival for all patients. The 1-year, 2-year, and 3-year survival rates were 92.0%, 82.5%, and 62.5%, respectively.

C) Overall survival for patients with PFS more than and less than 10 months.

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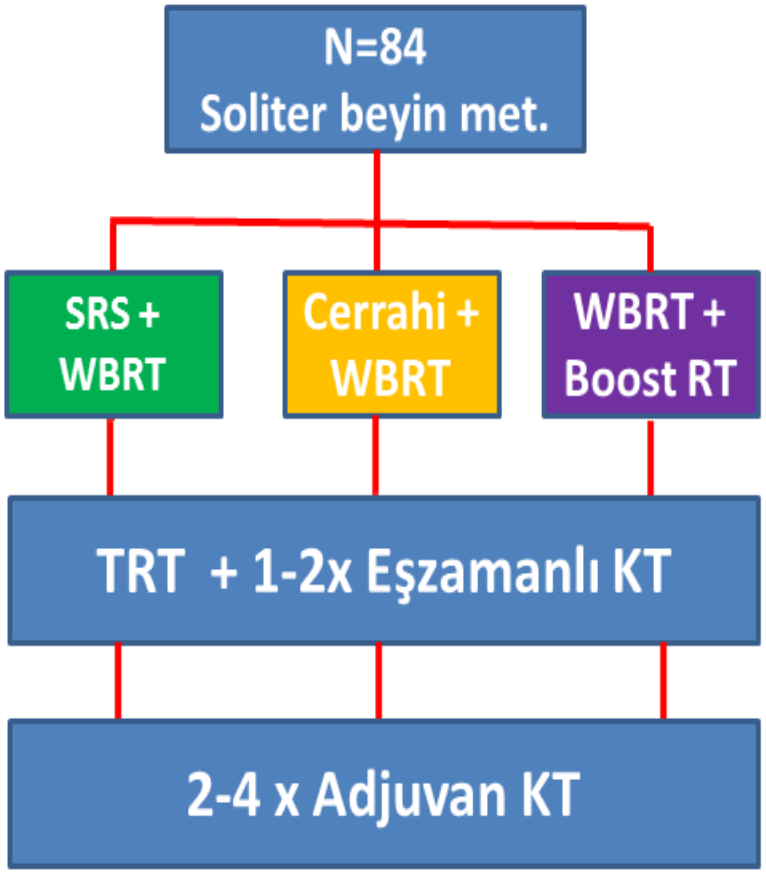
Univariate analysis for overall survival.

	HR	95% CI	*P*
RT response to primary GTV (≥PR vs. <PR)	0.238	0.042–1.342	0.104
Stage (IIIb vs. IV)	2.170	0.258–18.258	0.476
TKI (E vs. G)	3.791	0.734–19.587	0.112
Time interval from TKI to RT (<3 months vs. >3 months)	0.135	0.016–1.126	0.064
Sex (female vs. male)	0.549	0.122–2.464	0.434
Bone (yes vs. no)	0.158	0.019–1.320	0.088
Pleural (yes vs. no)	2.281	0.507–10.272	0.283
Lung (yes vs. no)	1.638	0.359–7.466	0.524

PR, partial response; TKI, tyrosine kinase inhibitor; E, erlotinib; G, gefitinib; RT, radiotherapy.

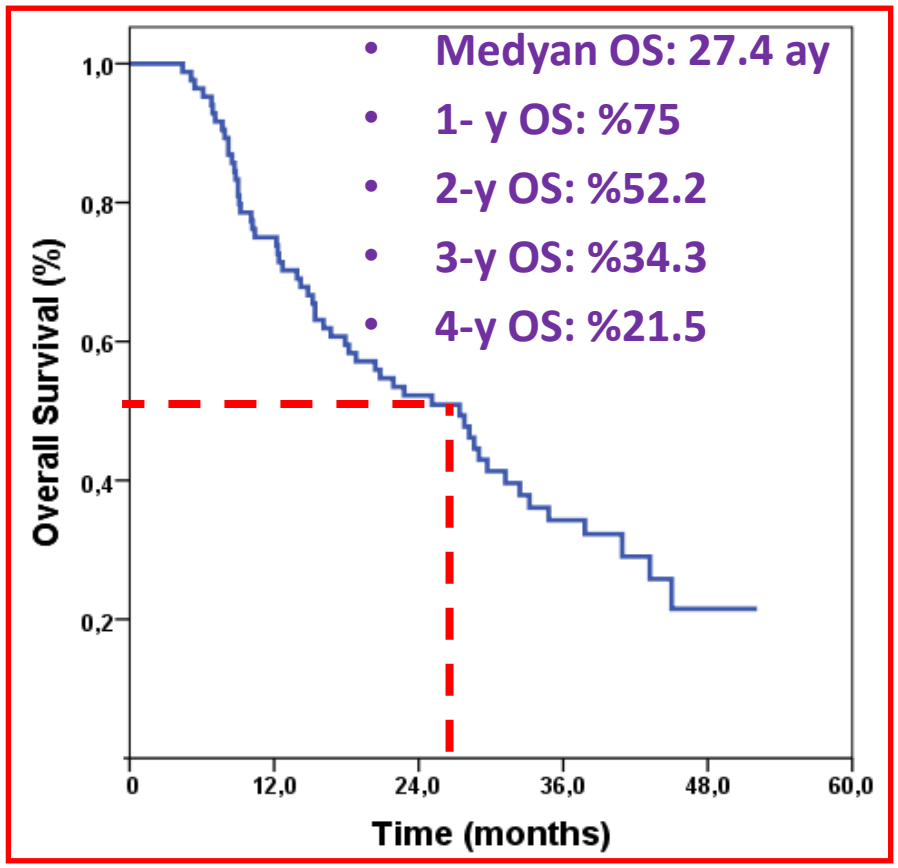
Başkent Ün. Rad Onkol A.D. Deneyimi

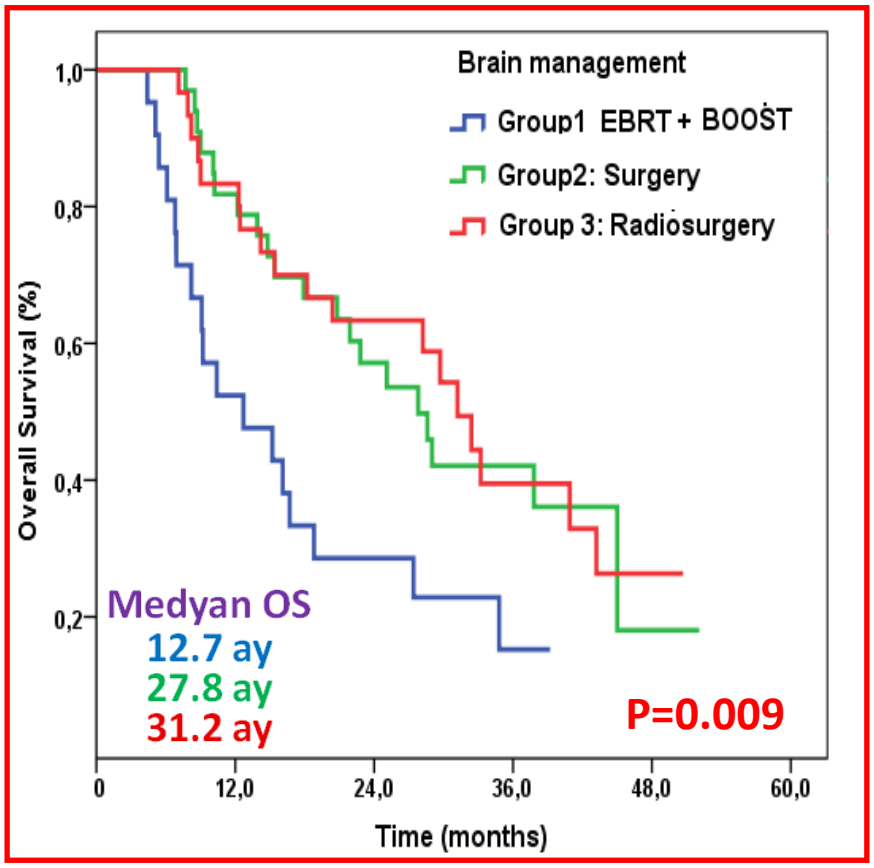
- Ocak 2007- Aralık 2011 (retrospektif analiz)
- 1197 potansiyel kür olabilir KHDAK
- 103 beyin soliter oligomet olgu (18-70 yaş)
- Toraks CT, Beyin MRG, PET/CT +
- 84 potansiyel küratif TRT (60-66 Gy/ 2Gy fr) + Eşzamanlı KT
- Beyin RT
- Primer sonlanım: OS
- Sekonder sonlanım: Prognostik faktörler



BAŞKENT ÜNİVERSİTESİ

Başkent Ün. Rad Onkol A.D. Deneyimi





Ablatif tedaviler WBRT+ EBRT boost tedaviden anlamlı üstün

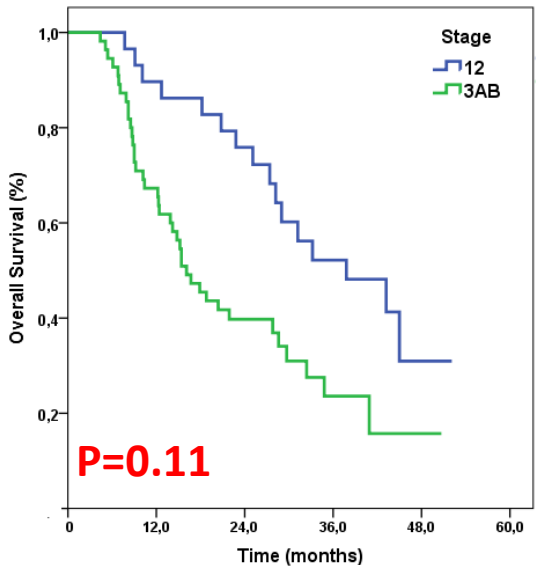
BAŞKENT ÜNİVERSİTESİ

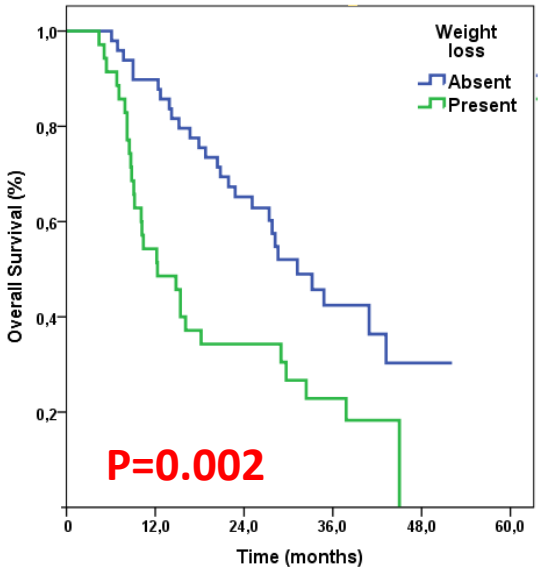
Başkent Ün. Rad Onkol A.D. Deneyimi

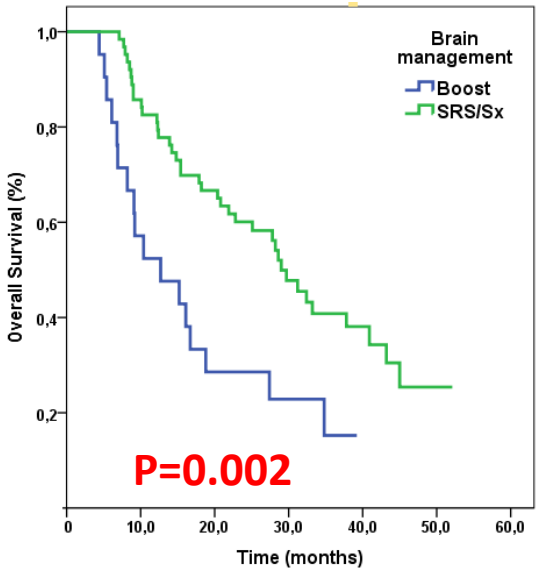
Variables	B	SE	Wald	df	Exp(B)	Sig (p)
Stage (12vs. 3A/B)	-,568	,599	,899	1	,566	,110
Weight loss (- vs. +)	,814	,292	7,757	1	2,257	,005
Brain tx (SRS/Sx vs. Boost)	-1,191	,326	13,331	1	,304	< ,001
T-stage (1,2 vs. 3,4)	1,126	,353	10,173	1	3,083	,001
N-stage (0,1 vs. 2,3)	1,175	,544	4,672	1	2,181	,012
ECOG (0,1 vs. 2)	,780	,310	6,334	1	1,580	,034
Anemia(- vs. +)	-1,628	,400	16,520	1	,196	< ,001

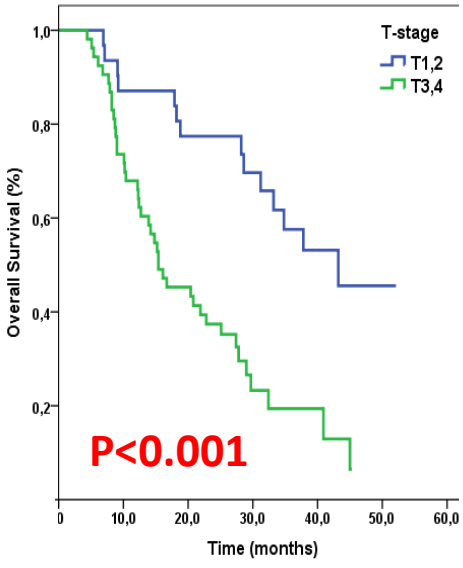
BAŞKENT ÜNİVERSİTESİ

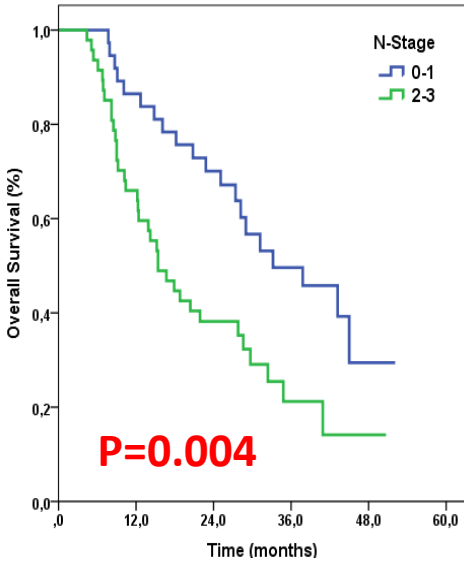
Başkent Ün. Rad Onkol A.D. Deneyimi

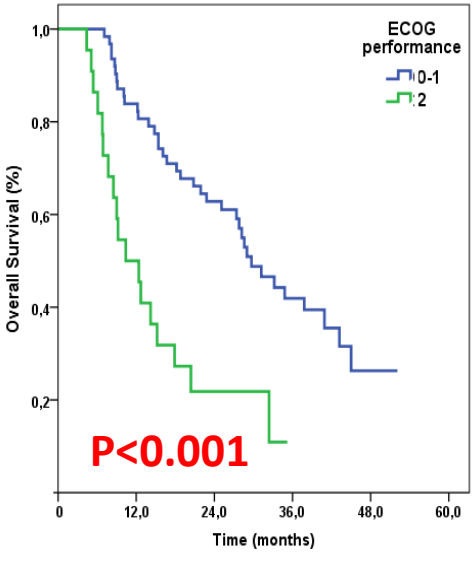


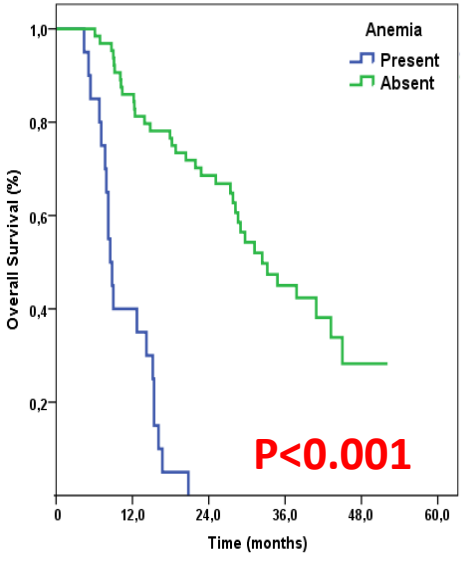












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http://www.ro-journal.com/content/6/1/166

RADIATION ONCOLOGY

RESEARCH Open Access

Long-term survival in patients with non-small cell lung cancer and synchronous brain metastasis treated with whole-brain radiotherapy and thoracic chemoradiation

Oscar Arrieta[1,2,3*], Cynthia Villarreal-Garza[2], Jesús Zamora[1,4], Mónika Blake-Cerda[4], María D de la Mata[1,4], Diego G Zavala[2], Saé Muñiz-Hernández[2] and Jaime de la Garza[1]

Abstract

Background: Brain metastases occur in 30-50% of Non-small cell lung cancer (NSCLC) patients and confer a worse prognosis and quality of life. These patients are usually treated with Whole-brain radiotherapy (WBRT) followed by systemic therapy. Few studies have evaluated the role of chemoradiotherapy to the primary tumor after WBRT as definitive treatment in the management of these patients.

Methods: We reviewed the outcome of 30 patients with primary NSCLC and brain metastasis at diagnosis without evidence of other metastatic sites. Patients were treated with WBRT and after induction chemotherapy with paclitaxel and cisplatin for two cycles. In the absence of progression, concurrent chemoradiotherapy for the primary tumor with weekly paclitaxel and carboplatin was indicated, with a total effective dose of 60 Gy. If disease progression was ruled out, four chemotherapy cycles followed.

Results: Median Progression-free survival (PFS) and Overall survival (OS) were 8.43 ± 1.5 and 31.8 ± 15.8 months, respectively. PFS was 39.5% at 1 year and 24.7% at 2 years. The 1- and 2-year OS rates were 71.1 and 60.2%, respectively. Three-year OS was significantly superior for patients with N0-N1 stage disease vs. N2-N3 (60 vs. 24%, respectively; Response rate [RR], 0.03; $p = 0.038$).

Conclusions: Patients with NSCLC and brain metastasis might benefit from treatment with WBRT and concurrent thoracic chemoradiotherapy. The subgroup of N0-N1 patients appears to achieve the greatest benefit. The result of this study warrants a prospective trial to confirm the benefit of this treatment.

Keywords: NSCLC, brain metastases, chemoradiotherapy, survival

Table 1 Baseline characteristics of patients and disease

Median age *(years)*	57 ± 11.1
Gender *(Female)*	17 (56.7%)
ECOG	
0	8 (26.7%)
1	19 (63.3%)
2	3 (10%)
Comorbidities	
EPOC	4 (13.3%)
Diabetes	3 (10%)
Hypertension	3 (10%)
Histology	
Adenocarcinoma	24 (80%)
Squamous	4 (13.3%)
Other	2 (6.7%)
Smoking history	
Yes	23 (76.7%)
No	7 (23.3%)
Nodal status	
N 0-1 (n)	16 (53.3%)
N 2-3 (n)	14 (46.7%)
RPA class 2	30 (100%)
Median brain metastatic lesions	3 ± 2

ECOG: Eastern Cooperative of Gynecologists; RPA: Radiation Therapy Oncology Group Recursive partitioning analysis (RPA).

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http://www.ro-journal.com/content/6/1/166

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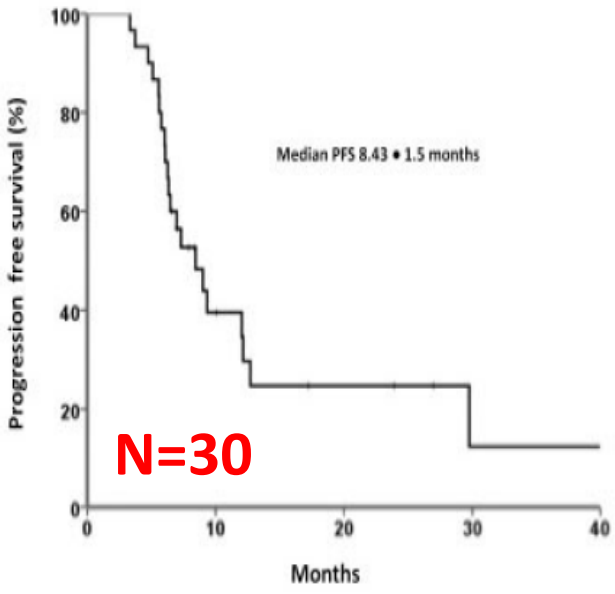

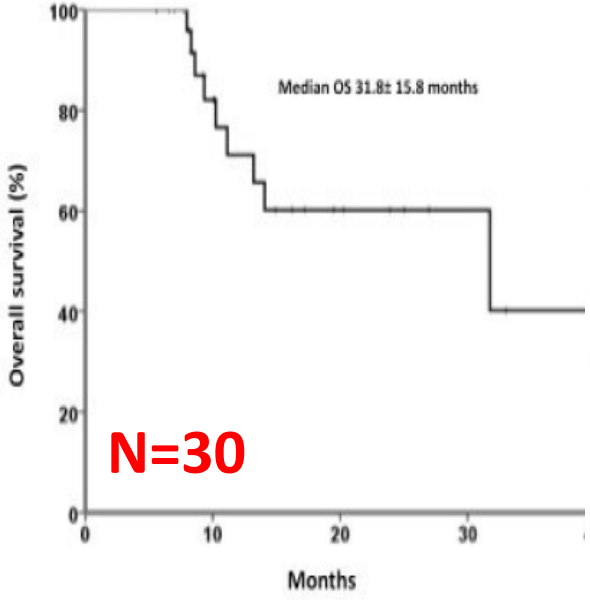

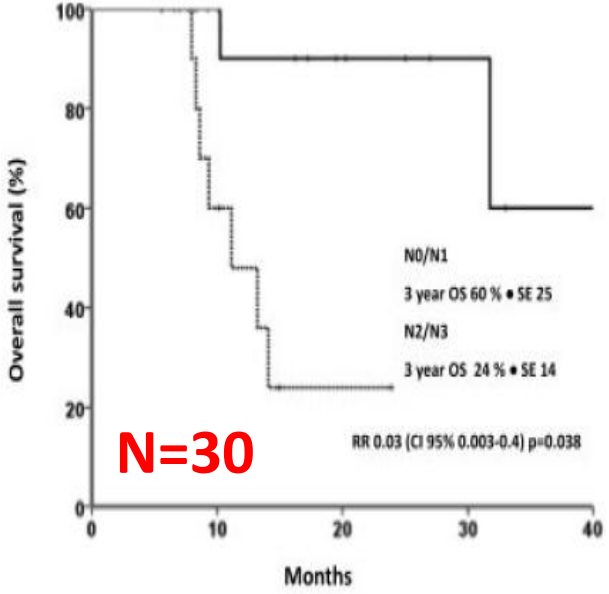

Bünyamin Hocamızın muhtemel söylemleri neler olacak?

Bu hastalar seçilmiş hastalar mı?

Bünyamin Hocamız der ki?

- Hastalar çok iyi seçilmiş
- Prognozu standart tedaviyle de iyi olurdu

Guideline önerisi yok?

Bünyamin Hocamız der ki?

- Guideline önerisi yok, bu tür yaklaşımlar deneysel olmaktan öteye geçemez

Guideline önerisi yok

“ Absence of evidence is not evidence of absence”

The difference between evidence that something is absent (e.g. an observation that suggests there were no dragons here today) and a simple absence of evidence (e.g. no careful research has been done) can be nuanced. Indeed, scientists will often debate whether an experiment's result should be considered evidence of absence, or if it remains absence of evidence. The debate is whether the experiment would have detected the phenomenon of interest if it was there.

Kanıt yokluğu yokluğun kanıtı olamaz

Kanıtları kim bulacak?

- Metastaz sayısı, ortaya çıkış zamanı ile tutulu organ(lar)ın önemi ve tedavi edilebilirliği göz önüne alınmadan bütün metastatik AC ca tanılı hastaların aynı şekilde palyatif tedavilerle idame edilmeleri akıl dışıdır

- Genel durumu iyi, görece sınırlı sayıda metastazı olan hastaların bilimin ve teknolojinin getirdiği yeniliklerden yararlanma şansı tanınmalı ve metastazları ablate edilmiş bir grup hastanın erken evre hastalara benzer sağkalım gösterebileceği unutulmamalıdır
- En yüksek faydayı görecek hastaları ile en iyi "hasta ve hastalığa" özgü tedaviler için gerekli kanıtları bulacak olan bizleriz

Kanıtları kim bulacak?

- Kanıt yok diyerek vazgeçmek de akıl dışıdır

Multidisipliner ve önyargısız yaklaşımlarla başarısız olma şansımız yok!

TEŞEKKÜRLER