NON SURGICAL RADICAL TREATMENT FOR LOCALLY ADVANCED NSCLC
NEOADJUVANT CT,CONCURRENT CT RT

- PROF S.N.SENAPATI,

PROF & HOD,

DEPT OF RADIATION ONCOLOGY

AH REGIONAL CANCER CENTRE,

CUTTACK

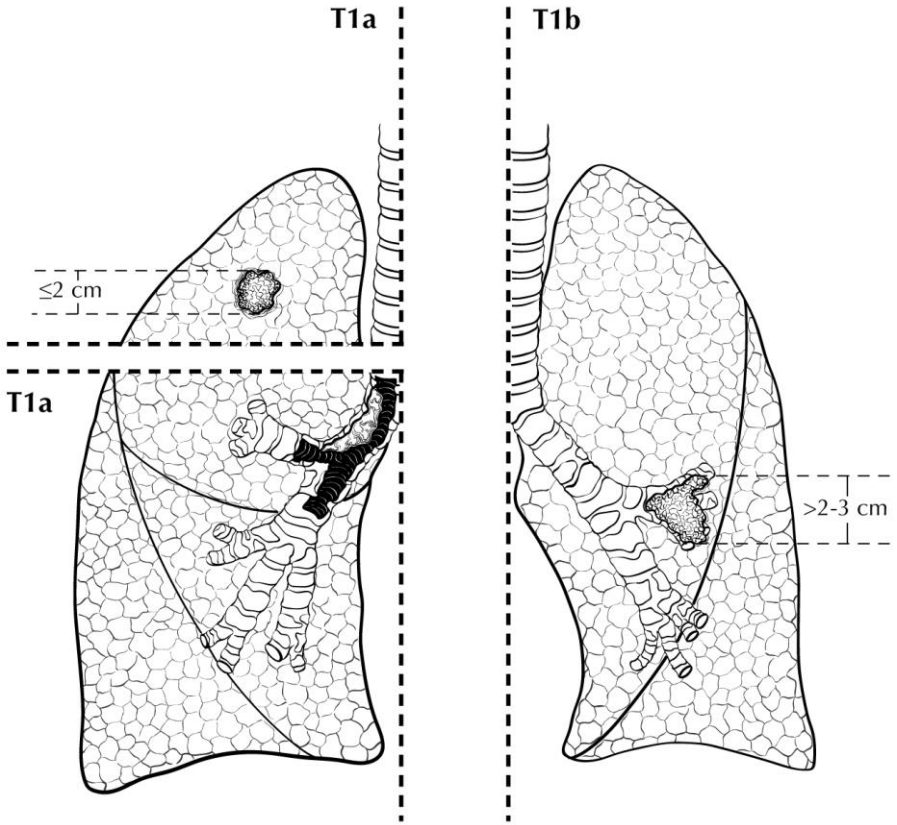
- 60 years Male
- History of Smoking
- Clinical presentn : Cough & Hemoptysis – 6 months
- Chest Pain – 4 months
- CT Scan Thorax : Mass of size 4 cm x 3.6 x 3 cm at Lt Lower lobe with inv of subcarinal and Rt Mediastinal Lymph nodes
- No evidence of distant Metastasis
- CT Guided Biopsy: Adenocarcinoma
- Patient has EGFR deletion

What is the stage of the disease STAGE :-

What is the most appropriate treatment

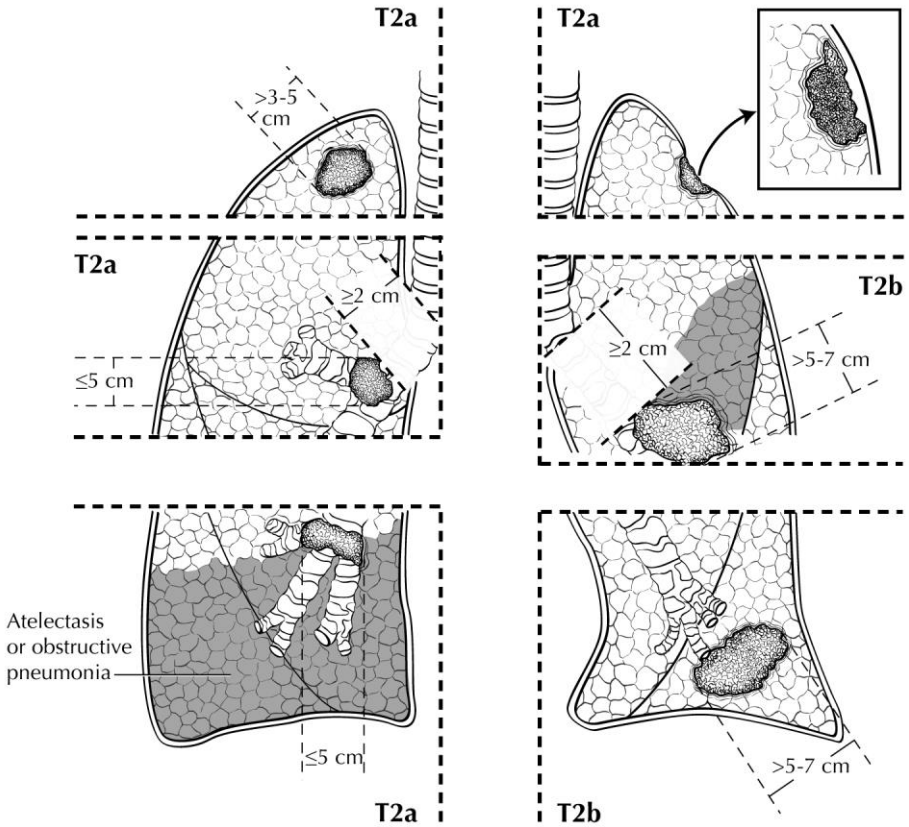
1. Surgery followed by adjuvant treatment :-
2. Radiation alone :-
3. CT followed by RT
4. Concurrent CT, RT
5. Concurrent CT, RT followed by consolidation CT
6. Concurrent CT,RT followed by maintenance CT

Lung



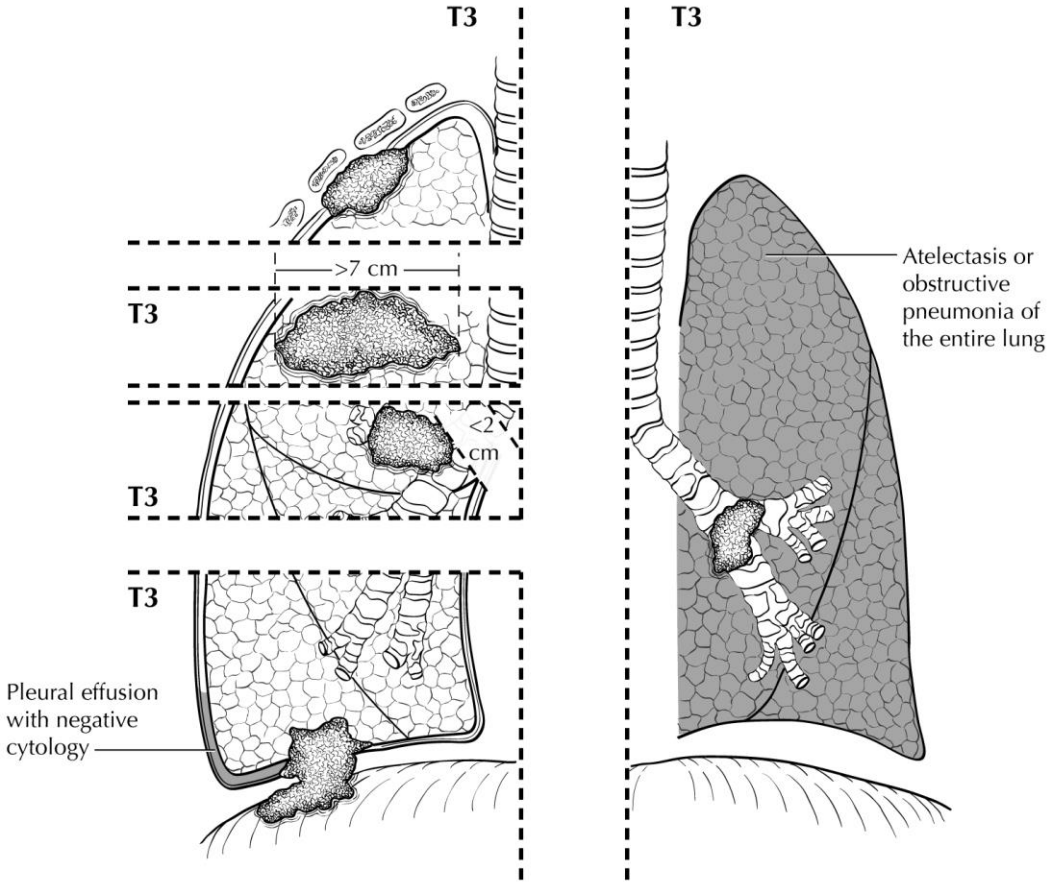
T1 is defined as a tumor 3 cm or less in greatest dimension, surrounded by lung or visceral pleura, without bronchoscopic evidence of invasion more proximal than the lobar bronchus (i.e., not in the main bronchus). T1a is defined as a tumor 2 cm or less in greatest dimension (upper left). T1a is also defined as a superficial spreading tumor of any size with its invasive component limited to the bronchial wall, which may extend proximally to the main bronchus (lower left). T1b is defined as a tumor more than 2 cm but 3 cm or less in greatest dimension (right).

Lung



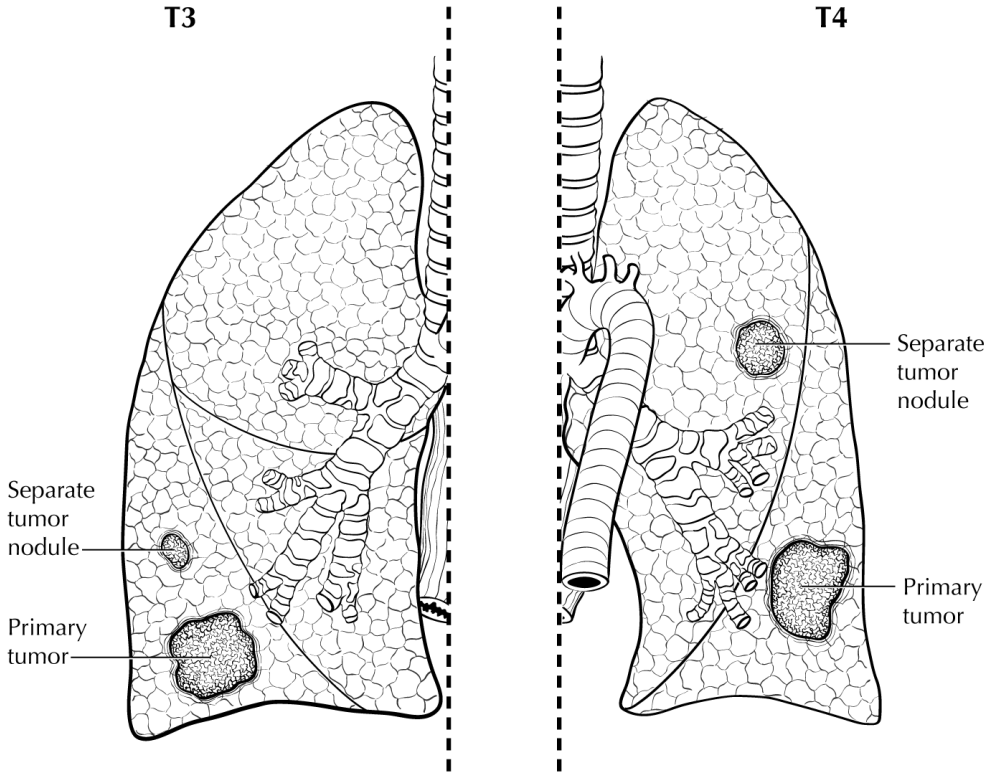
T2 is defined as a tumor more than 3 cm but 7 cm or less or tumor with any of the following features (T2 tumors with these features are classified T2a if 5 cm or less); involves main bronchus, 2 cm or more distal to the carina (middle left and middle right); invades visceral pleura (PL1 or PL2) (upper right); associated with atelectasis or obstructive pneumonitis that extends to the hilar region but does not involve the entire lung (bottom left). T2a is defined as tumor more than 3 cm but 5 cm or less in greatest dimension (upper left). T2b is defined as tumor more than 5 cm but 7 cm or less in greatest dimension (bottom right).

Lung



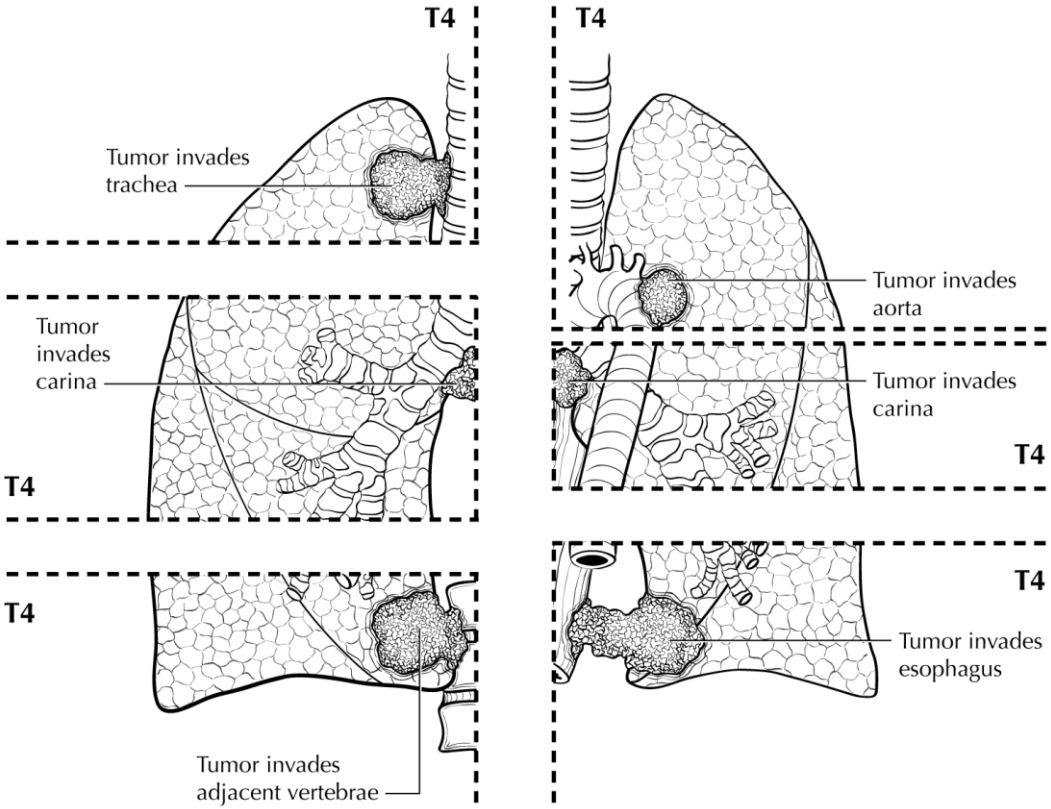
T3 is defined as a tumor more than 7 cm (upper middle left) or one that directly invades any of the following: parietal pleural (PL3), chest wall (including superior sulcus tumors) (upper left), diaphragm (lower left), phrenic nerve, mediastinal pleura, parietal pericardium; or tumor in the main bronchus (less than 2 cm distal to the carina but without involvement of the carina) (lower middle left); or associated atelectasis or obstructive pneumonitis of the entire lung (right) or separate tumor nodule(s) in the same lobe.

Lung



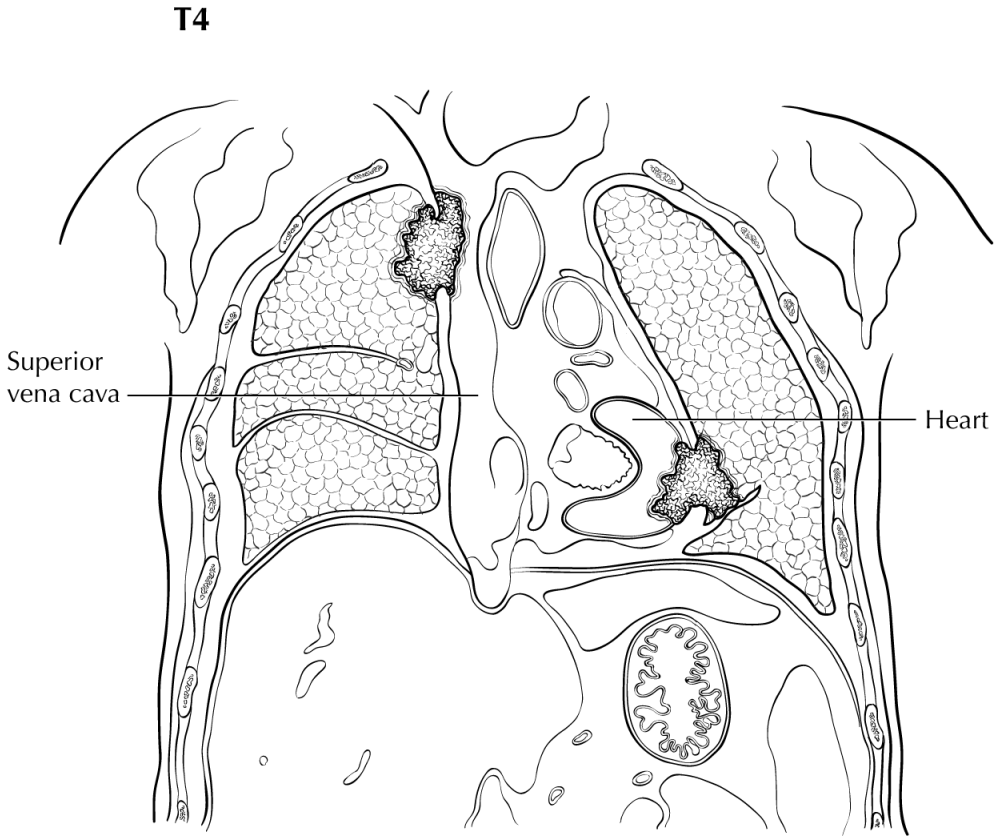
T3 includes separate tumor nodule(s) in the same lobe. T4 includes separate tumor nodule(s) in a different ipsilateral lobe.

Lung



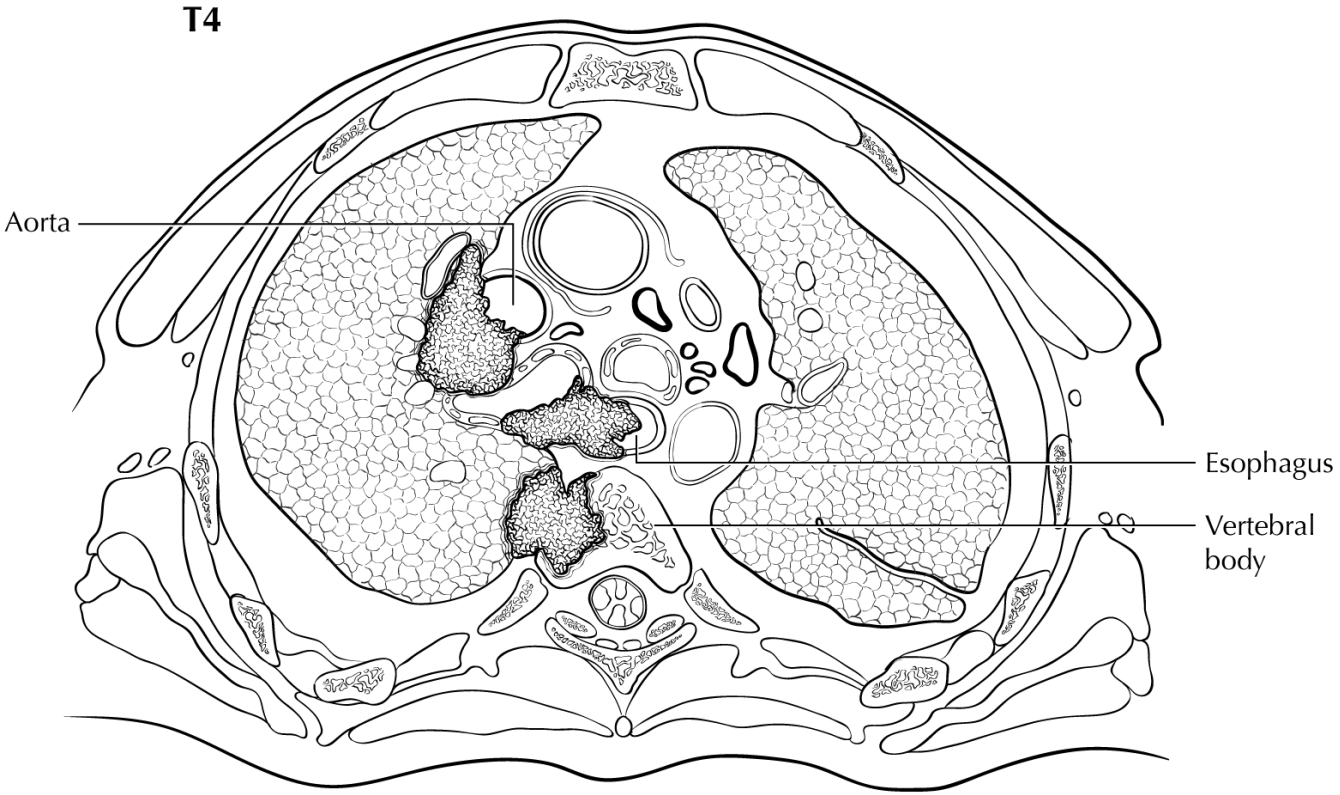
T4 is defined as tumor of any size that invades any of the following: mediastinum, heart, great vessels (upper right), trachea (upper left), recurrent laryngeal nerve, esophagus (lower right), vertebral body (lower left), carina (middle left and right), separate tumor nodule(s) in a different ipsilateral lobe.

Lung



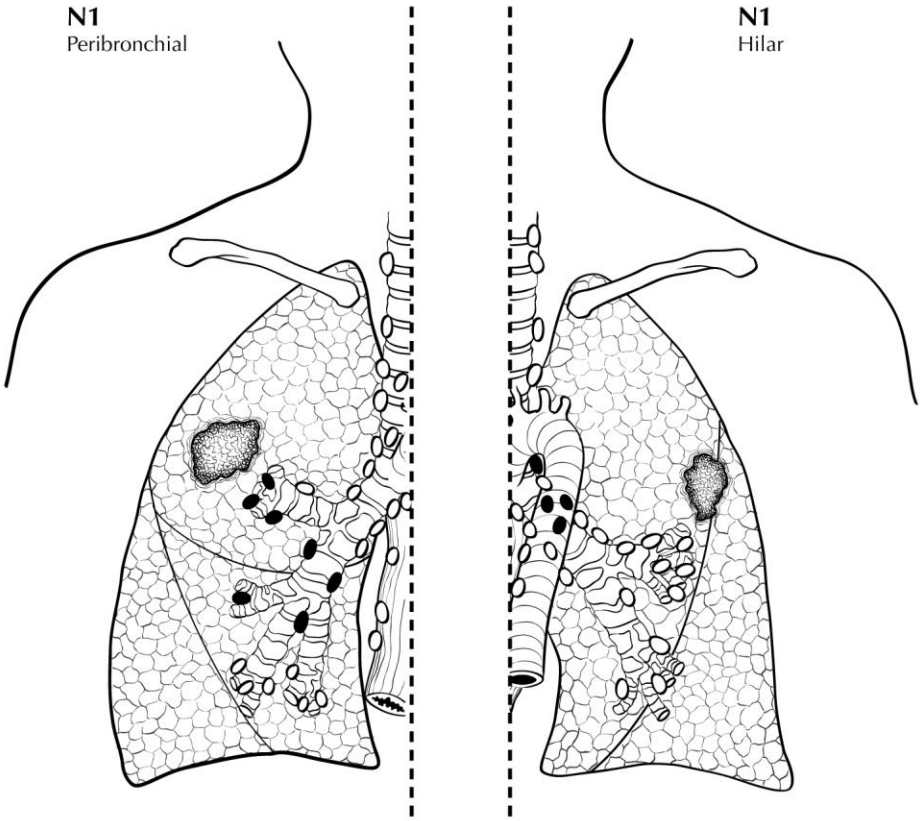
T4 includes tumor invasion of the superior vena cava and heart.

Lung



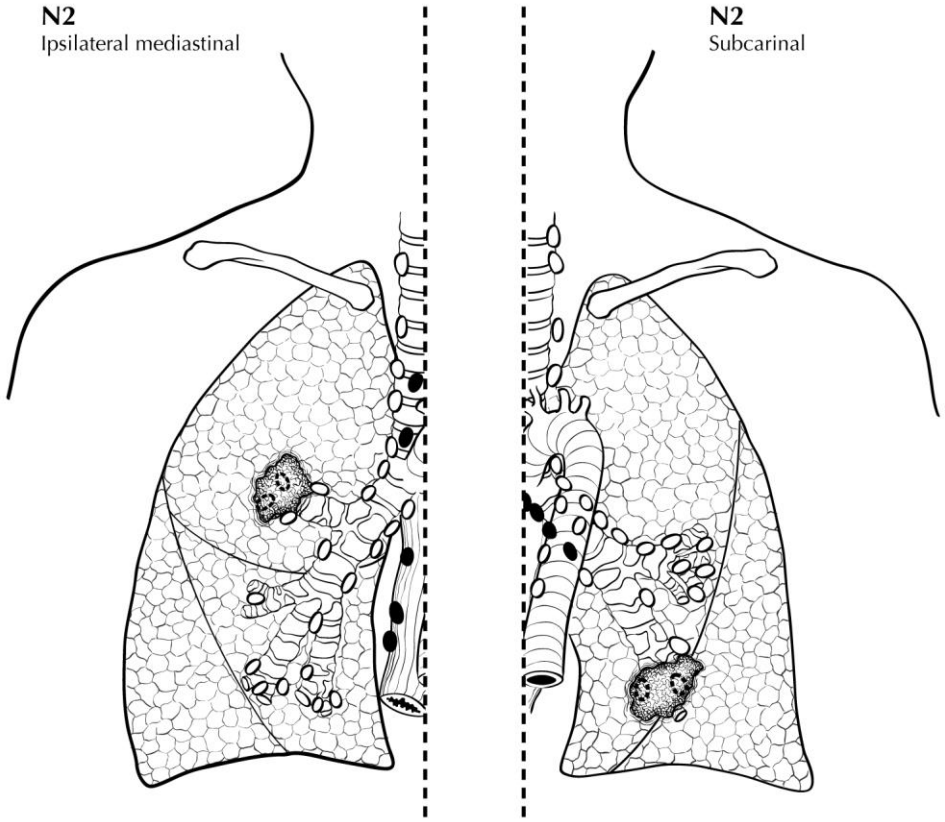
T4 includes tumor invasion of the aorta, esophagus, and vertebral body.

Lung



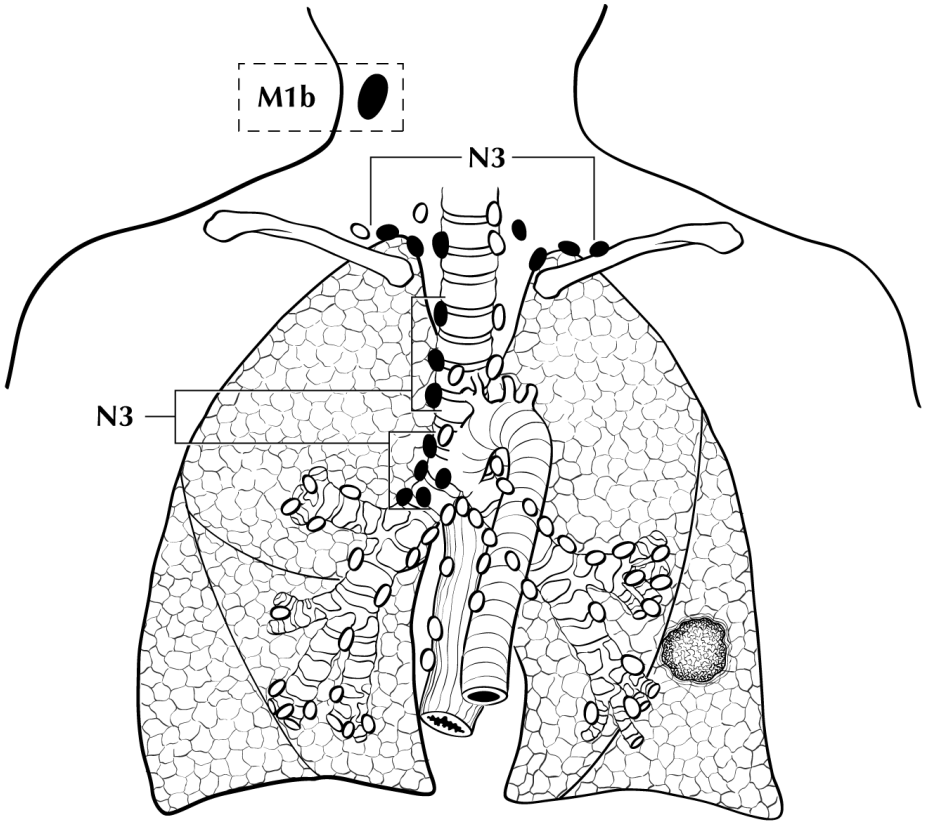
N1 is defined as metastasis in ipsilateral peribronchial (left side of diagram) and/or ipsilateral hilar lymph nodes (right side of diagram) and intrapulmonary nodes, including involvement by direct extension of the primary tumor.

Lung



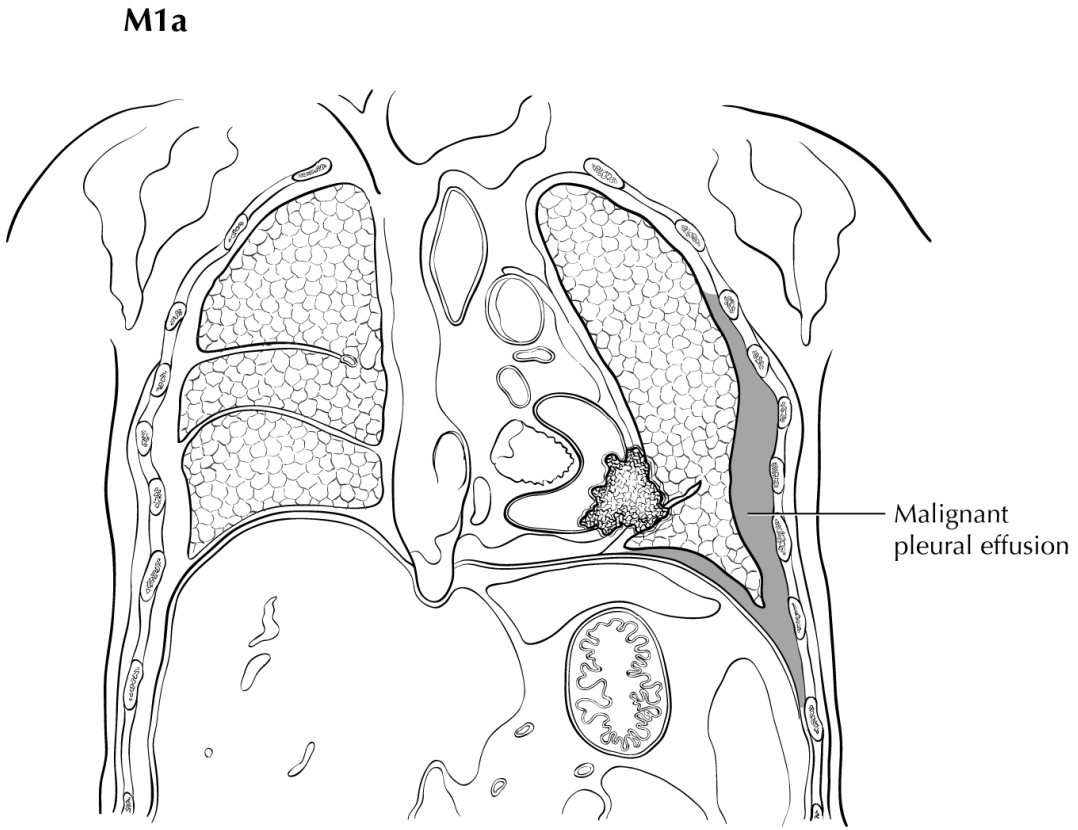
N2 is defined as metastasis in ipsilateral mediastinal (left side of diagram) and/or subcarinal lymph node(s) (right side of diagram).

Lung



N3 is defined as metastasis in contralateral mediastinal, contralateral hilar, ipsilateral or contralateral scalene, or supraclavicular lymph node(s), whereas M1b is defined as distant metastasis (in extrathoracic organs), and this would include distant lymph nodes.

Lung



M1a is defined as separate tumor nodule(s) in a contralateral lobe; tumor with pleural nodules or malignant pleural (or pericardial) effusion. This is an image of tumor with malignant pleural effusion.lymph nodes.

THIS PT HAVING

T 2 N3 M0  STAGE III B

Therapeutic Classification of NSCLC

Resectable NSCLC

Stage I, II, IIIA

Advanced/Unresectable NSCLC

Stage ?III A/III B

Metastatic NSCLC

T4 any N, N3 any T

INOPERABILITY IN NSCLC

1. N3 – CONTRALATERAL LYMPHNODE MET.
2. T4- INVASION OF CARINA,HEART,GREAT VESSELS
3. M1a :- MALIGNANT PLEURAL EFFUSION
4. M1b:- DIST MET.
5. N2:- CONTROVERSIAL ??
6. POST OP PREDICTED FEV1/DLCO VALUE LESS THAN 40%, VO 2 15mL/kg

RADIATION IN ADVANCED NSCLC

LOCALISED LESION RESECTABLE

but

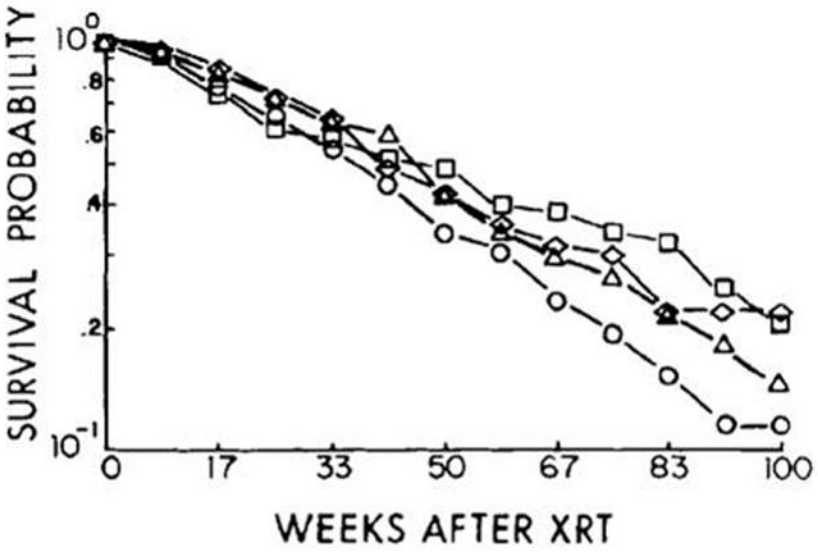
MEDICALLY INOPERABLE

- **LARGER UNRESECTABLE LESION**
- **T4 N0-2**
- **T1-4 N2 N3**

Stage III NSCLC

- Comprised of a heterogeneous group of patients with distinct clinical subsets.

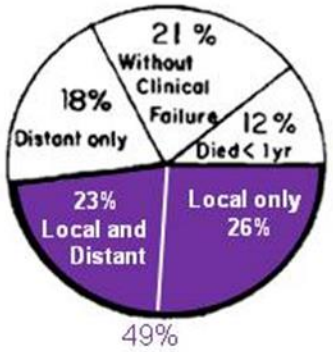
RTOG 73-01: Randomized trial of various doses and schedules of TRT in inoperable NSCLC



Treatment	Total	ORR	Median	2 YR OS
○ 4000 Split	93	46%	36.8	10%
△ 4000 Cont	97	51%	45.5	11%
◇ 5000 Cont	91	66%*	41.0	19%
□ 6000 Cont	84	61%*	47.2	19%

*P = .008 compared to 4000 Rads

4000 rad Split



4000 rad Continuous

5000 rad Continuous

6000 rad Continuous

Perez CA, et al. Cancer 45:2744-53, 1980
Perez CA, et al. Cancer 50:1091-9, 1982

CONTINUOUS RT OF 60 Gy IS BETTER THAN SPLIT COURSE 40 Gy RT

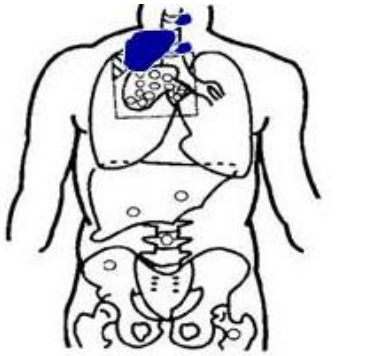
RADIATION IN ADVANCED LUNG CANCER

- LOCAL TUMOR CONTROL 30%
- 5 YRS SURVIVAL:-5%
- MEDIAN SURVIVAL -10 MO

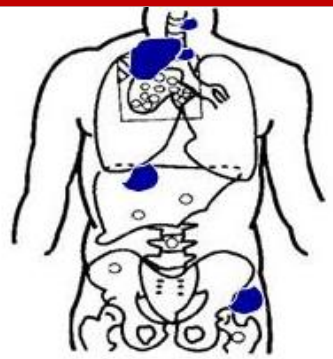
60-65 Gy

50Gy

MAJORITY FAILS AT LOCAL AND DIST. SITE



No micrometastatic disease



Micrometastatic disease

Compton, C.C., Byrd, D.R., et al., Editors. AJCC CancerStaging Atlas, 2nd Edition. New York: Springer, 2012. ©American Joint Committee on Cancer

HOW TO IMPROVE

DOSE ESCALATION

TECHNOLOGY
3DCRT
IMRT
GATING

ALTERED #

CHEMOTHERAPY AND RADIATION

NEOADJUVANT

CONCURRENT CT RT

CONSOLIDATION /MAINTENANCE

Strategies for the Treatment of Unresectable Stage III NSCLC

CONCURRENT CHEMORADIOTHERAPY

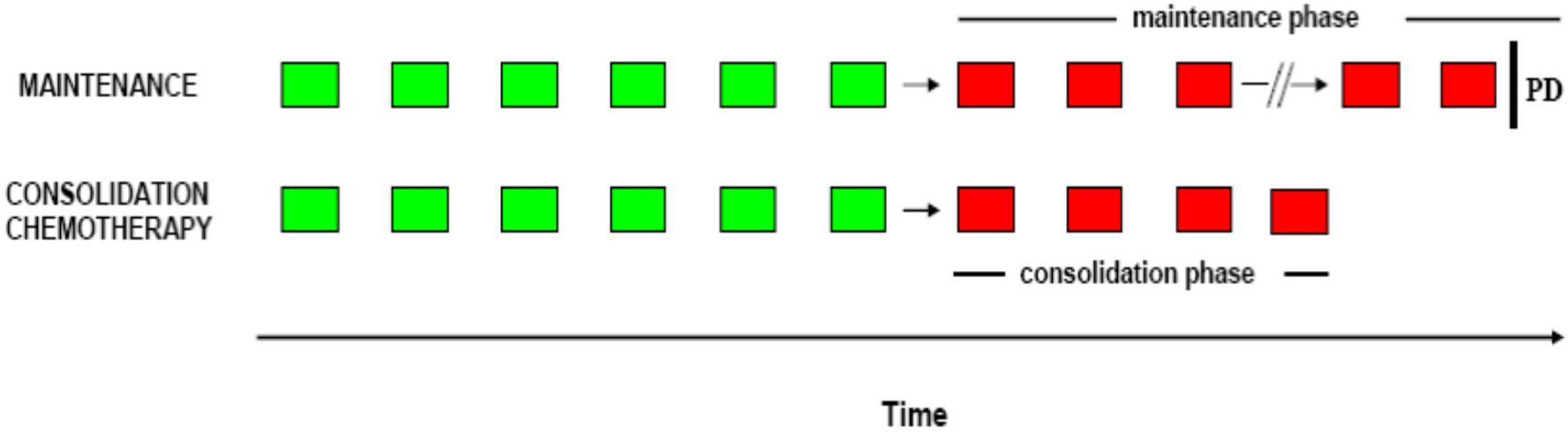
Induction Chemotherapy

Consolidation Chemotherapy

Maintenance Therapy

Maintenance or consolidation therapy: DEFINITION

- In the absence of significant toxicity, consolidation therapy is continued for a defined time & maintenance therapy until evidence of progressive disease



NEOADJUVANT CT-RT

Chemotherapy Followed by Definitive TRT

Trial	Accrual	N	Chemo	TRT	MS	1 YR OS	2 YR OS	P Value
Mattson	1982-85	119 119	CAP	30 Gy/28 Gy 30 Gy/25 Gy	322 d 311 d	42% 41%	19% 17%	p=NS
Morton[a] (NCCTG)	1983-87	56 58	MACC	50 Gy 50 Gy	313 d 317 d	46% 45%	21% 16%	p>0.2
Le Chevalier	1983-89	176 177	VCPC	65 Gy 65 Gy	12 m 10 m	50% 41%	21% 14%	p=.08
Dillman[b] (CALGB)	**1984-87**	**78 77**	**VbC**	**60 Gy 60 Gy**	**13.7 m 9.7 m**	**55% 40%**	**26% 13%**	**p=.0066**

[a]FYI: Original accrual 150,study closed due to slow accrual
[b]FYI: Interim analysis showing OS benefit and study terminated

TRT – Thoracic Radiotherapy
CAP – Cyclophosphamide, Adriamycin, Cisplatin
MACC – Methotrexate, Doxorubicin, Cyclophosphamide, oral Lomustine (CCNU)
VCPC – Vindesine, Cisplatin, Lomustine, Cyclophosphamide
VbC – Vinblastine, Cisplatin
NS – Not significant

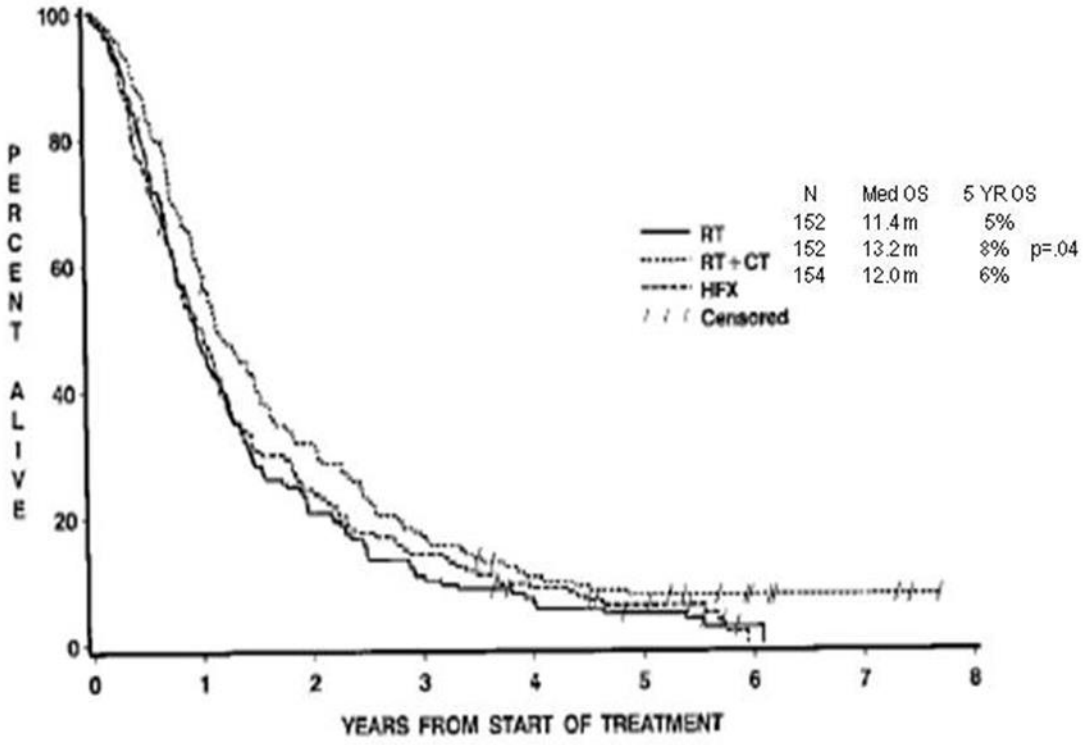
Mattson K, et al. Eur J Cancer Clin Oncol 24:477-82, 1988
Morton RF, et al. Ann Intern Med 115:681-6, 1991
Le Chevalier T, et al. J Natl Cancer Inst 83:417-23, 1991
Dillman RO, et al. NEJM 323:940-5, 1990

RTOG 8808/ECOG 4588/SWOG Intergroup Trial

TRT
60 Gy
2Gy/fx

Vb/C
followed by
TRT (60 Gy)

TRT
69.6 Gy
1.2Gy/fx bid

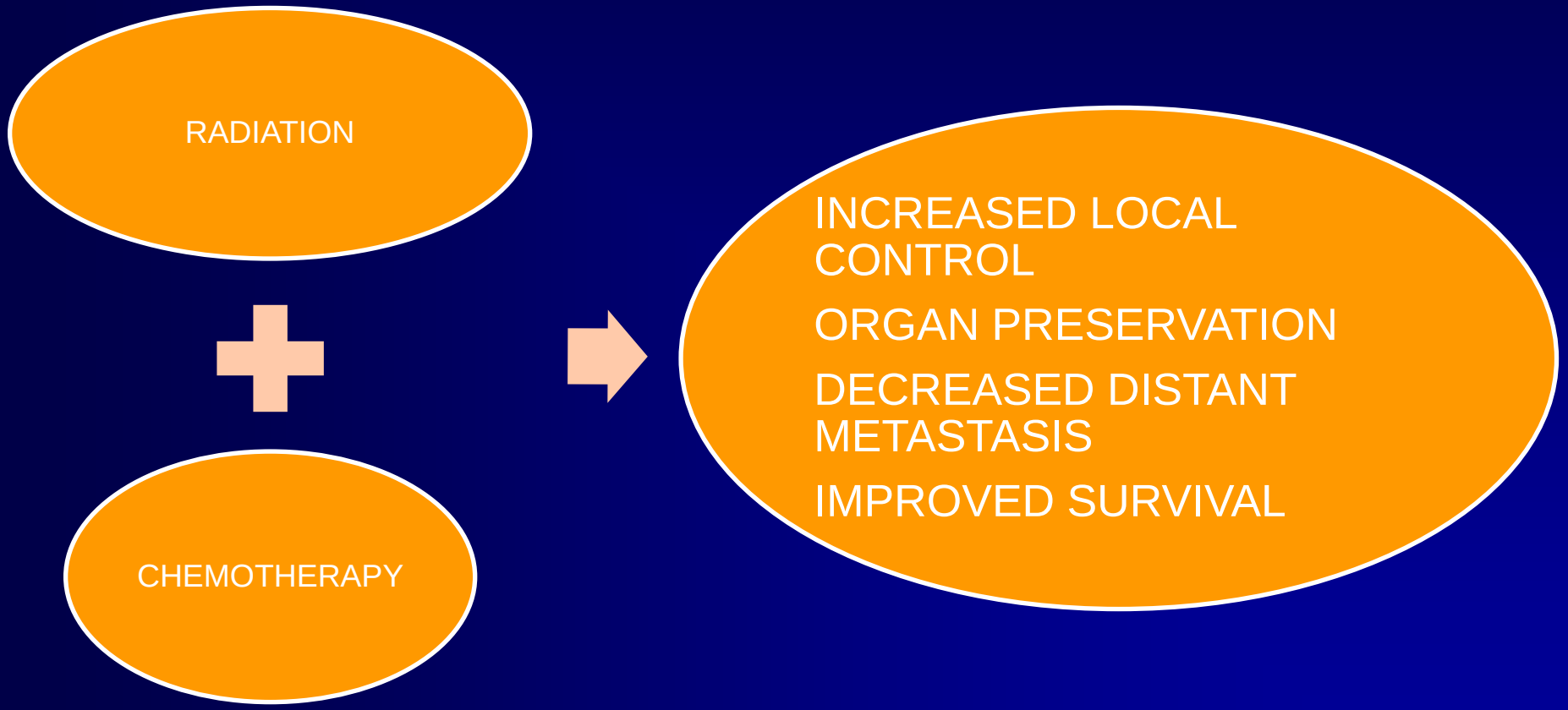


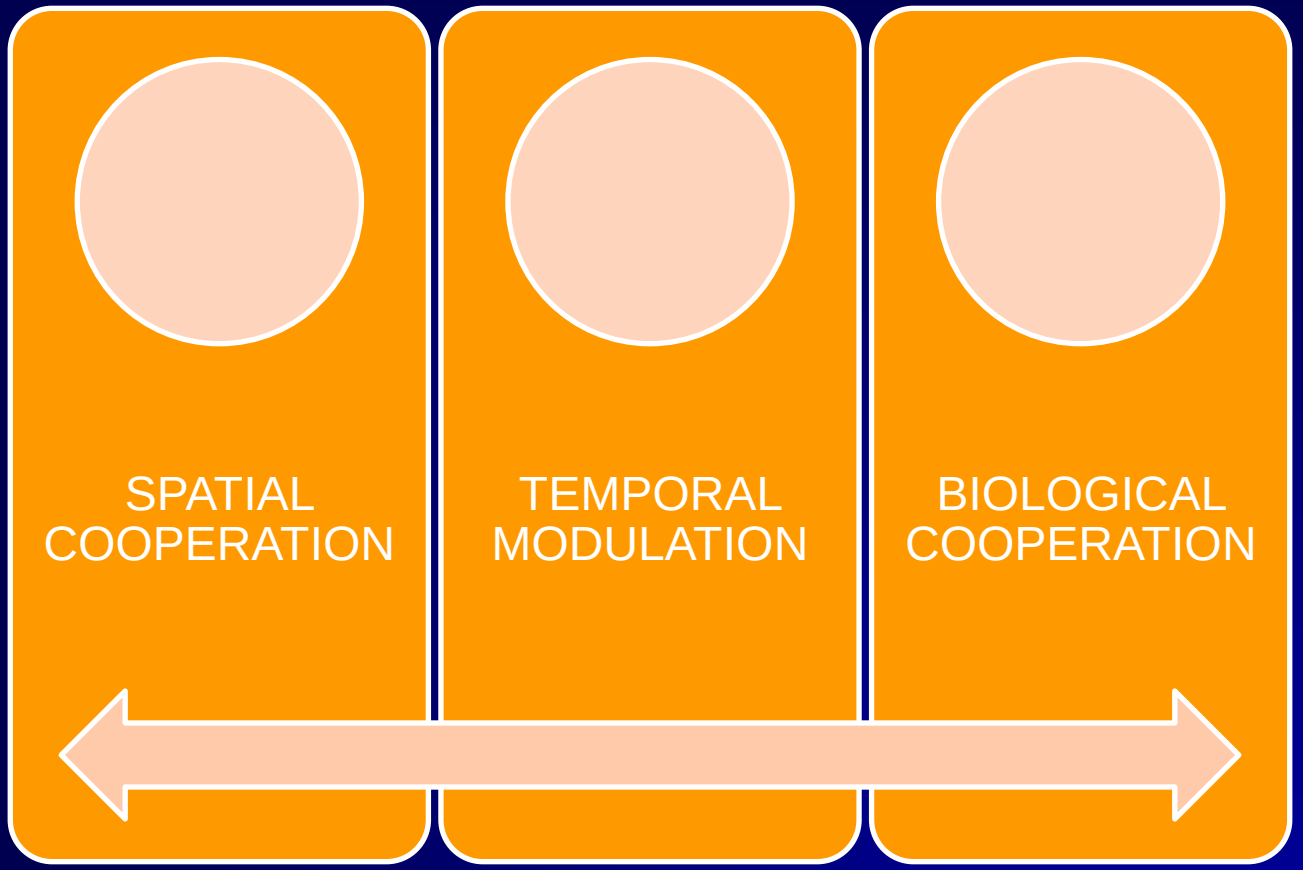
Vb/C – Vinblastine, Cisplatin
fx – Fraction

Sause WT. et al. J Natl Cancer Inst 87:198-205, 1995
Sause WT. et al. Chest 117:358-364, 2000

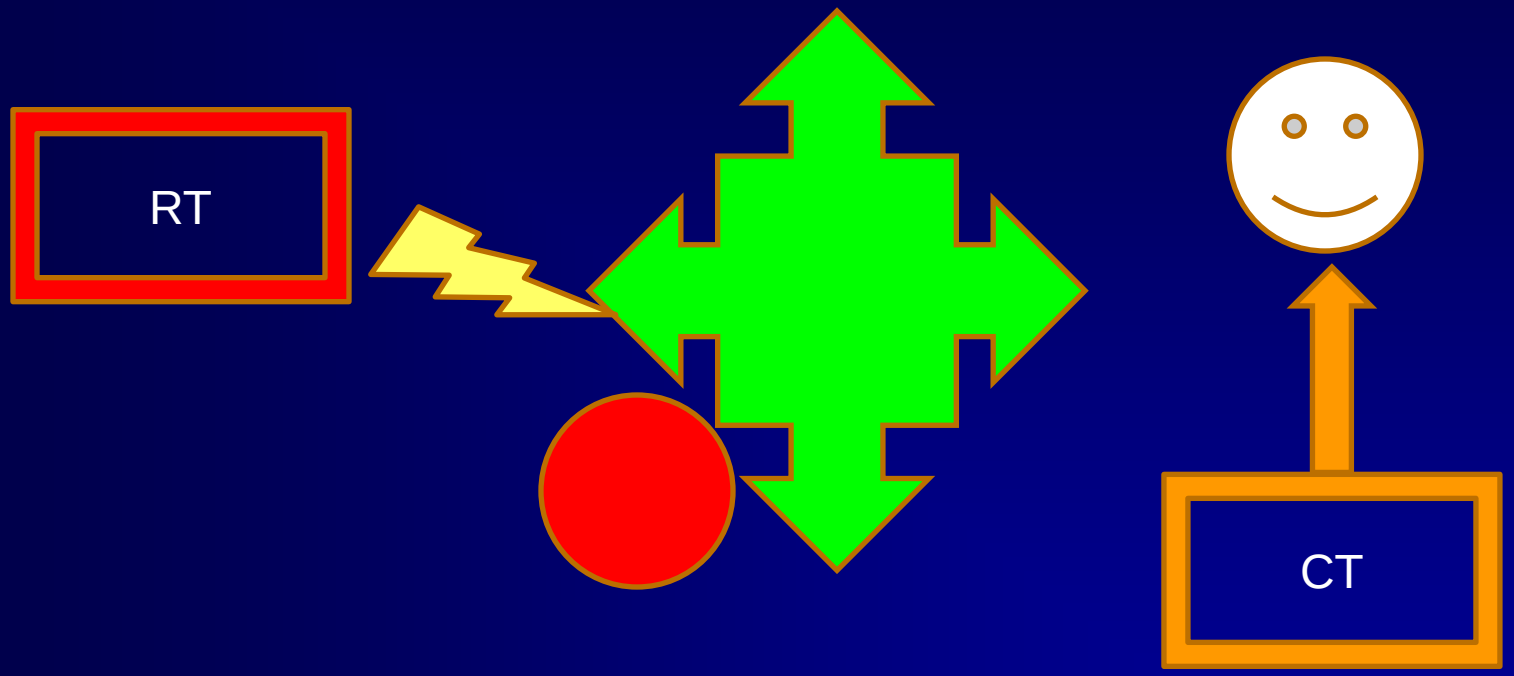
- NEOADJUVANT CT FOLLOWED BY RT IS SUPERIOR THAN RT ALONE

CONCURRENT CT RT


RADIATION
CHEMOTHERAPY
INCREASED LOCAL CONTROL
ORGAN PRESERVATION
DECREASED DISTANT METASTASIS
IMPROVED SURVIVAL

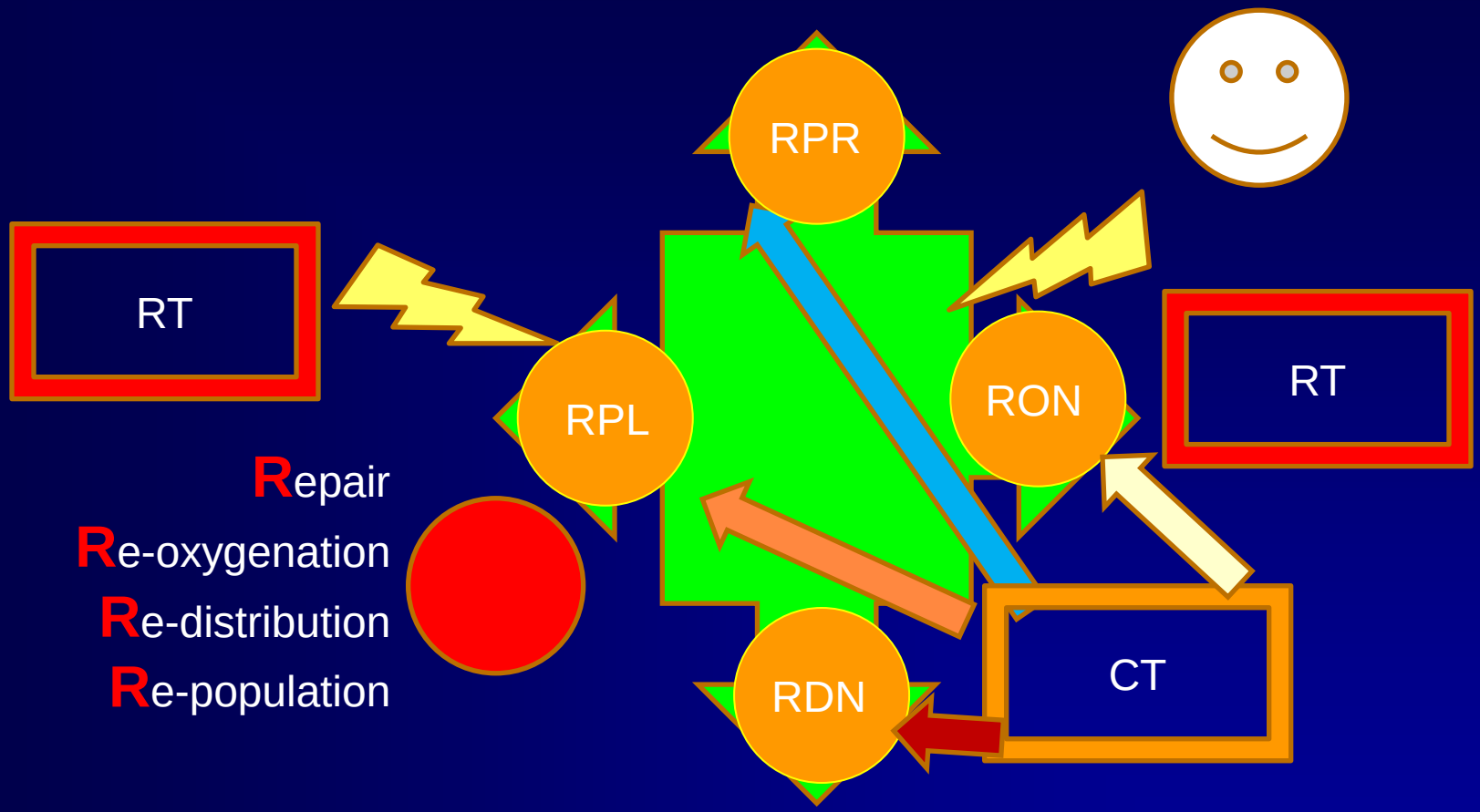

SPATIAL COOPERATION
TEMPORAL MODULATION
BIOLOGICAL COOPERATION

SPATIAL COOPERATION



- ***Spatial cooperation*** **refers to combining a drug that is efficacious against systemic disease with radiation, which is effective against locoregional disease. Because a full dose of radiotherapy and chemotherapy is required, and spatial cooperation does not require an interaction at the cellular level, these modalities are typically administered sequentially in an effort to reduce toxicity.**

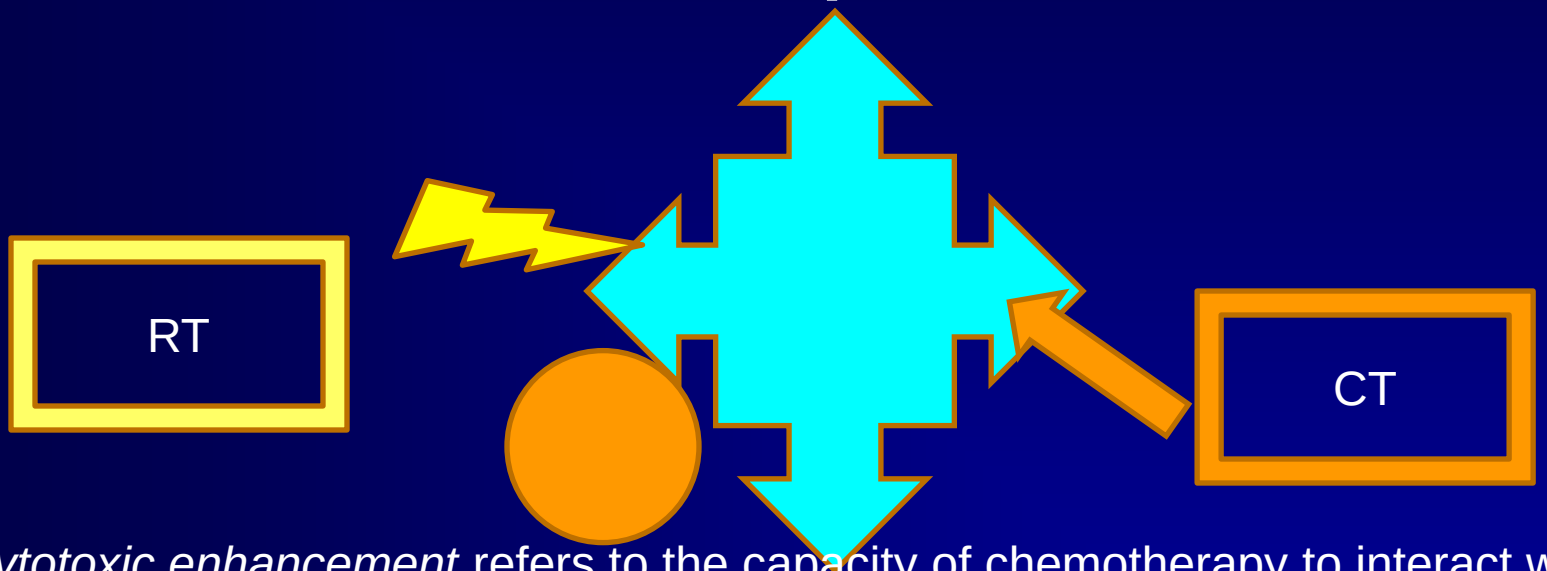
TEMPORAL MODULATION



- **The diverse and complex biologic processes that may be targeted by chemotherapy occurring during the interval between fractionated radiotherapy, including tumor-cell repopulation, reoxygenation, and cellular redistribution, have been collectively termed *temporal modulation*.**

BIOLOGICAL COOPERATION

- **additive or supra-additive**



Cytotoxic enhancement refers to the capacity of chemotherapy to interact with radiation and produce a greater effect on the local tumor than would be expected from simple additivity of cell killing.

BIOLOGICAL CO-OPERATION
✓targeting distinct cell populations
✓different mechanisms of cell killing
✓inducing tumour regrowth delays.
The 2 modalities may be given concurrently by combining radiation with bio-reductive drugs mitomycin C to target hypoxic tumour cells.

MECHANISM OF ACTION

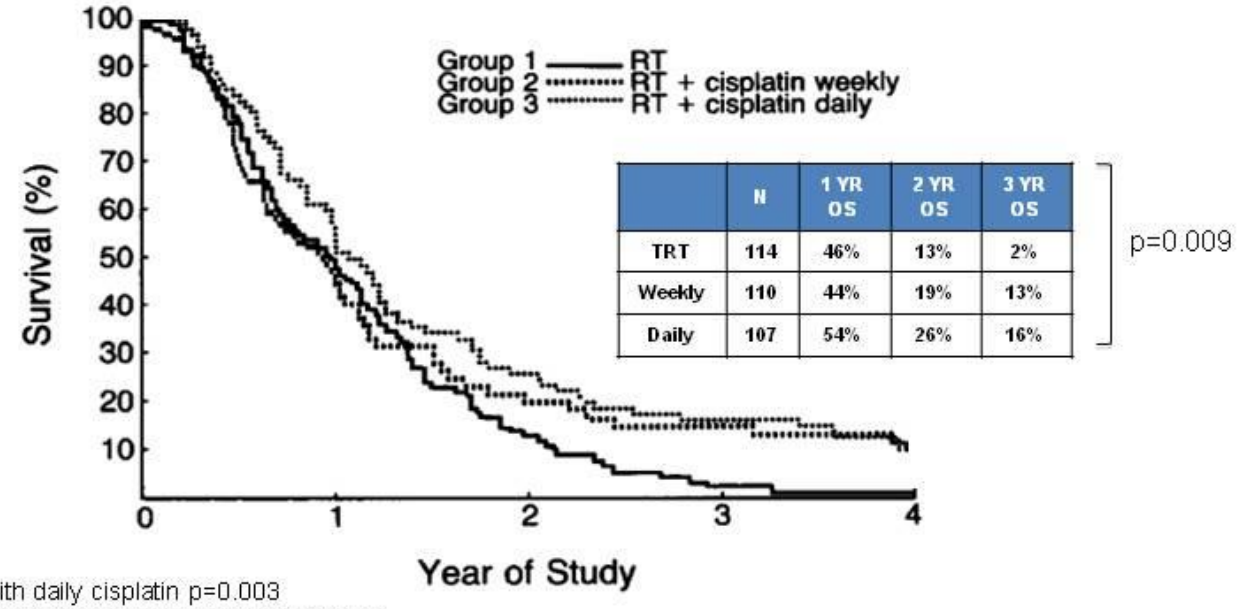
1. DNA damage can be induced by both chemotherapy and radiotherapy and synergy
2. Chemotherapy can inhibit post-radiation damage repair
3. Radiotherapy and chemotherapy often target different phases of the cell cycle and produce an additive effect (i.e. cytokinetic cooperation/synchronization)
4. Enhanced activity against hypoxic cells
5. Inhibition of repopulation
6. Block signaling pathways that are responsible for aggressive tumor biology, poor prognosis, and radioresistance

DRUGS USED AS CHEMORADIATION IN NSCLC

DRUGS	DOSE M g/M2	SCHEDULE
GEMCITABINE	600	D1,8.22,29
PACLITAXEL	50-125	D1,22
VINORELBINE	15	D1,8,22,29
ETOPOSIDE	50	D1-5,D29-36
CARBOPLATINUM	Auc 2	
CISPLATINUM	30-50	1,8,29,36
DOCETAXOL	40	D1,8,29,36
MITOMYCIN C	8	D1,8,29,36
VINDESINE	3	D1,8,29,36

Concurrent Weekly or Daily Chemoradiotherapy

	Wk 1 – Wk 2	3-4 Wks	Wk 1 – Wk 2
Group 1 (N=108) XRT	10 Fx x 3 Gy	Rest	10 Fx x 2.5 Gy
Group 2 (N=98) XRT + Cisplatin	10 Fx x 3 Gy 30 mg/m² weekly	Rest	10 Fx x 2.5 Gy 30 mg/m² weekly
Group 3 (N=102) XRT + Cisplatin	10 Fx x 3 Gy 6 mg/m² daily	Rest	10 Fx x 2.5 Gy 6 mg/m² daily



	N	1 YR OS	2 YR OS	3 YR OS
TRT	114	46%	13%	2%
Weekly	110	44%	19%	13%
Daily	107	54%	26%	16%

p=0.009

Local control improved with daily cisplatin p=0.003
No difference in distant metastases between the three arms
Severe nausea reported in 26% (weekly) and 27% (daily) cisplatin

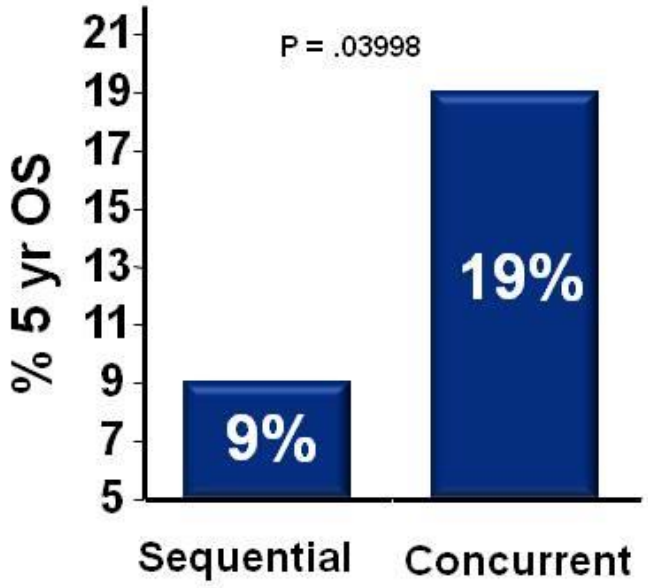
Schaake-Konig C, et al. NEJM 326;524-530,1992

LOCAL CONTROL AND SURVIVAL IS BETTER IN CONCURRENT DAILY CDDP ARM THAN WEEKLY CDDP

Concurrent Cyclic Chemoradiotherapy

WJLCG

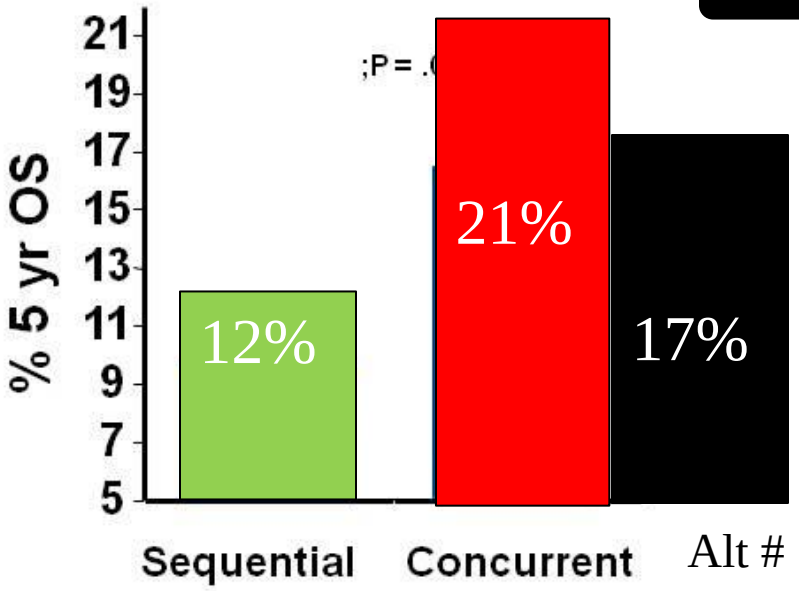
330 pts → MVP x 2 → Cont RT Day 50
330 pts → MVP x 2/Split RT Day 1



RTOG 9410

595 pts → Vb/C x 2 →Stn RT Day 50
595 pts → Vb/C x 2/Stn RT Day 1
595 pts → PE x 2/BID RT Day 1

P=.046



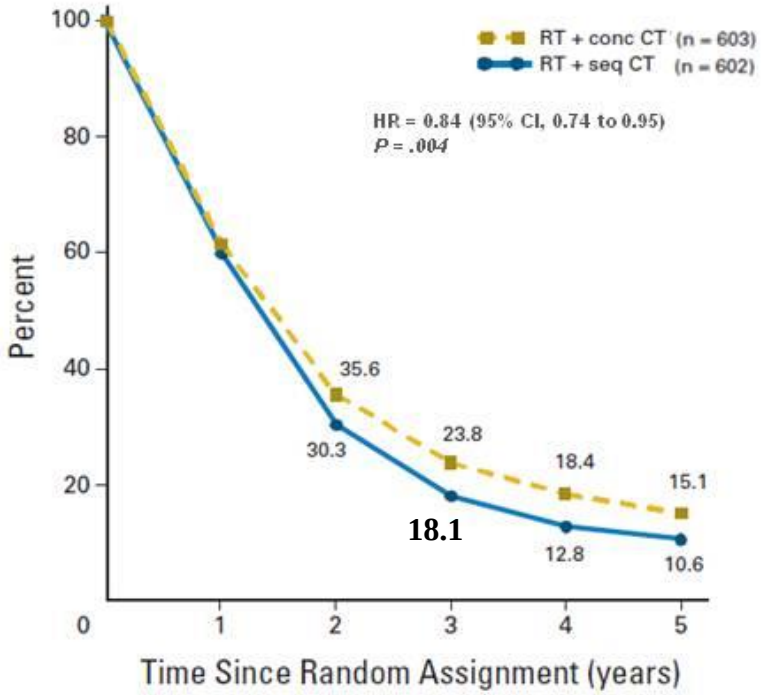
Alt #

MVP – Mitomycin, Vindesine, Cisplatin
Vb/C – Vinblastine, Cisplatin
PE – Cisplatin, Etoposide

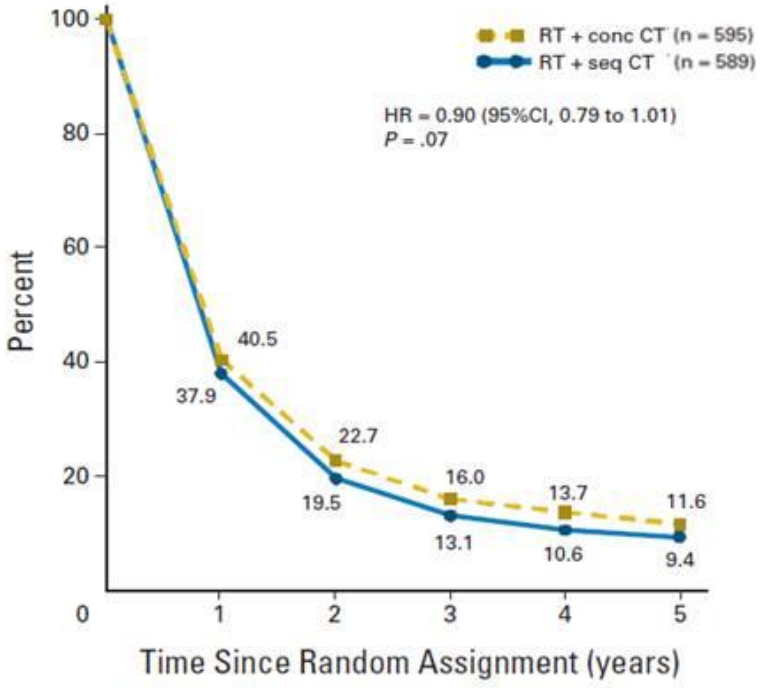
Furuse K, et al. J Clin Oncol. 17:2692-9, 1999
Curran WJ, et al. J Clin Oncol. 22:621 (abstr 2499), 2003
Curran WJ, et al. J Natl Cancer Inst 103:1452-60, 2011

Meta-analysis
Concurrent vs Sequential Chemoradiotherapy

Overall Survival



Progression Free Survival

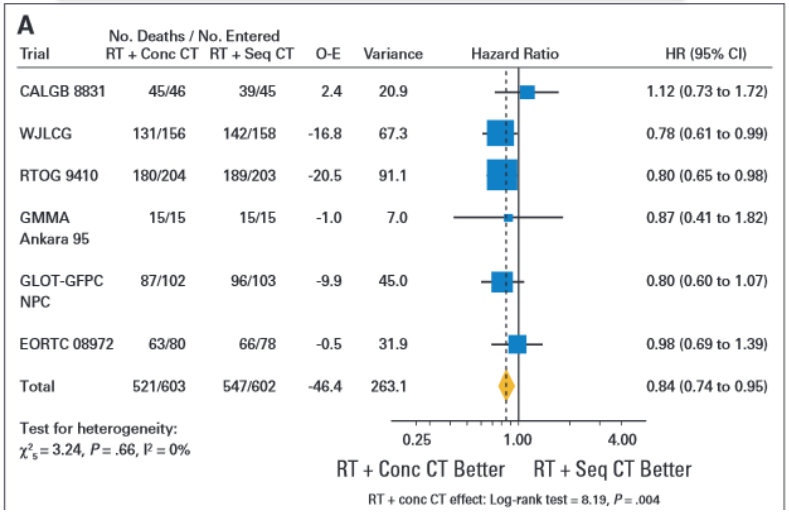


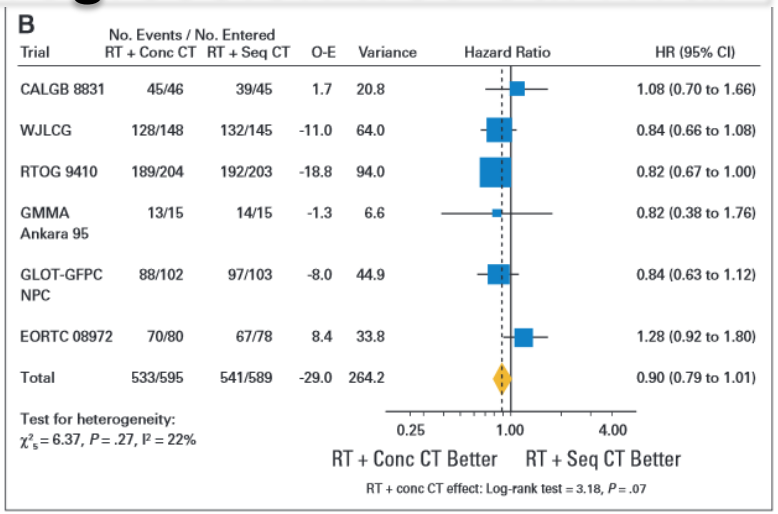
Decreased local regional progression	HR 0.77, 95% CI .62-.95; p=.01
No decrease in distant progression	HR 1.04, 95% CI .86-1.15; p=.69
Increase in acute grade 3/4 esophageal toxicity	RR 4.9, 95% CI 3.1-7.8; p<.001

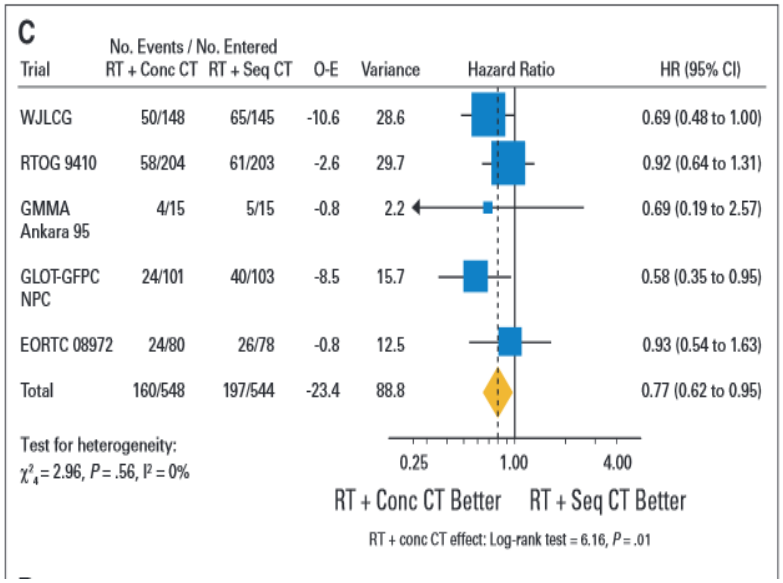
Auperin A, et al. J Clin Oncol 28:2181-90,2010

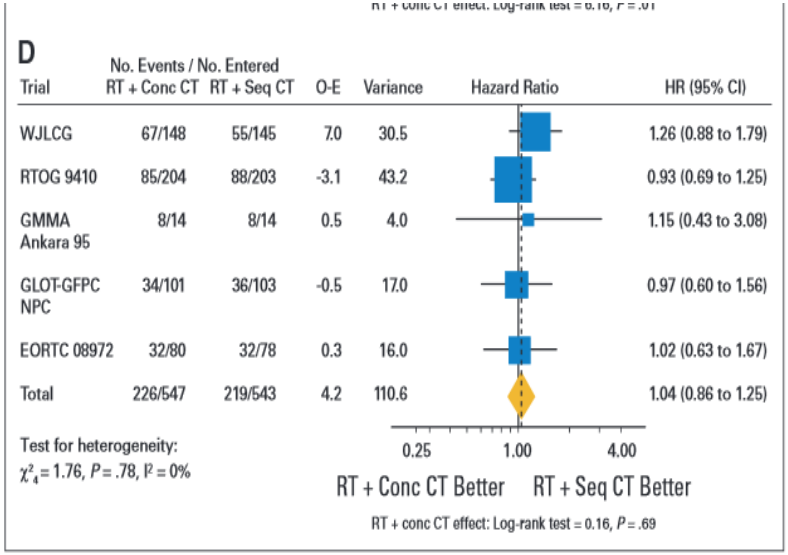
survival

Progression free survival







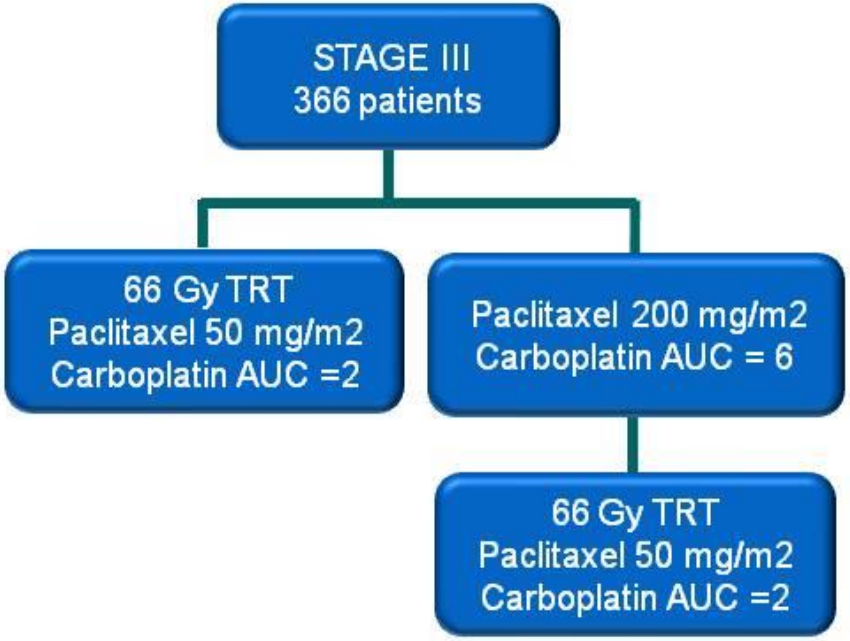


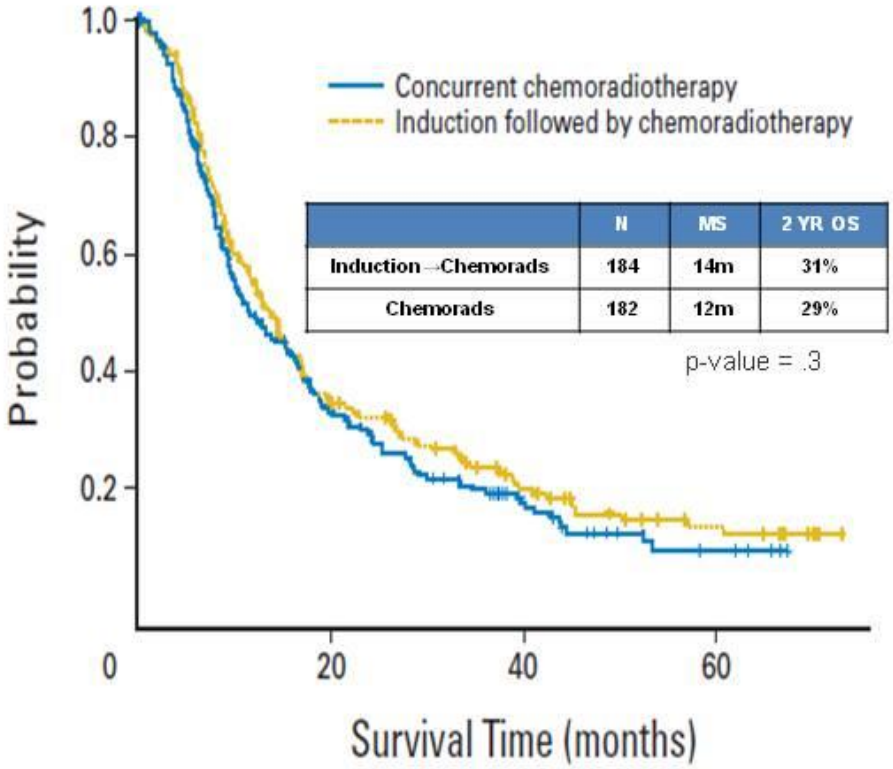
Local progression

Distant progression

CONCURRENT CT RT IS BETTER THAN SEQUENTIAL CT RT

The Role of Induction Chemotherapy
CALGB 39801





	N	MS	2 YR OS
Induction→Chemorads	184	14m	31%
Chemorads	182	12m	29%

Vokes EE et al. JCO 25:1698-1704, 2007

Induction Strategy

Study	Year	Strategy	No.	MST	3 yr
CALGB 39801	2006	Induction-->Concurrent	184	14 mo	23%
		Concurrent alone	182	12 mo	19%
Korea	2007	Induction-->Concurrent	67	13 mo	<25%
		Concurrent alone	67	18 mo	NR
CALGB 9431	2002	Induction-->Concurrent	62	18 mo	28%
		Induction-->Concurrent	58	15 mo	19%
		Induction-->Concurrent	55	18 mo	23%
RTOG 9801	2007	Induction-->Concurrent	118	17 mo	27%
		Induction-->Concurrent	121	18 mo	28%
NCI/RTOG/MDA	2007	Induction-->Concurrent	188	14 mo	~25%
		Induction-->Concurrent	191	16 mo	~25%

Induction Strategy

Study	Year	Strategy	No.	MST	3 yr
CALGB 39801	2006	Induction-->Concurrent	184	14 mo	23%
		Concurrent alone	182	12 mo	19%
Korea	2007	Induction-->Concurrent	67	13 mo	<25%
		Concurrent alone	67	18 mo	NR
CALGB 9431	2002	Induction-->Concurrent	62	18 mo	28%
		Induction-->Concurrent	58	15 mo	19%
		Induction-->Concurrent	55	18 mo	23%
RTOG 9801	2007	Induction-->Concurrent	118	17 mo	27%
		Induction-->Concurrent	121	18 mo	28%
NCI/RTOG/MDA	2007	Induction-->Concurrent	188	14 mo	~25%
		Induction-->Concurrent	191	16 mo	~25%

INDUCTION CT FOLLOWED BY CONCURRENT CT RT DO NOT SHOW STATISTICALLY SIGNIFICANT SURVIVAL ADVANTGES OVER CONCURRENT CT RT

Randomized Phase II Trial Evaluating Newer Chemotherapy Regimens: CALGB 9431

Cisplatin
+
Gemcitabine, Paclitaxel or Vinorelbine

→

TRT
Cisplatin
+
Gemcitabine, Paclitaxel or Vinorelbine

Response	Cisplatin/ Gemcitibine (n=62)	Cisplatin/ Paclitaxel (n=58)	Cisplatin/ Vinorelbine (n=55)
Complete Response	0	0	2%
Partial Response	35%	31%	38%
Stable Disease	40%	45%	42%
Overall Response Rate	40%	33%	44%

Response	Cisplatin/ Gemcitibine (n=62)	Cisplatin/ Paclitaxel (n=58)	Cisplatin/ Vinorelbine (n=55)
Complete Response	8	19	16%
Partial Response	60%	47%	53%
Stable Disease	16%	17%	20%
Overall Response Rate	74%	67%	73%
Median OS	18.3 m	14.8 m	17.7 m
1 YR OS	68%	62%	65%
GR 3/4 ANC	51%	53%	27%
GR 3/4 Plts	56%	6%	2%
GR 3/4 Esophogitis	52%	39%	27%

Vokes EE, et al. J Clin Oncol 20:4191-4198, 2002

Second vs Third Generation Chemotherapy Regimens + TRT

	Treatment	N	Med OS	5 YR OS	P Value
WJTOG0105					
Cyclic	MVP + TRT	146	20.5 m	17.5%	NS
Weekly	Irinotecan/CBDCA + TRT*	147	19.5 m	17.8%	NS
Weekly	Paclitaxel/CBDCA + TRT*	147	22.0 m	17.9%	NS
OLCSG 0007				**1 YR OS**	
Cyclic	MVP + TRT	101	23.7 m	48.1%	NS
Cyclic	Doc/P + TRT**	99	26.8 m	60.3%	NS

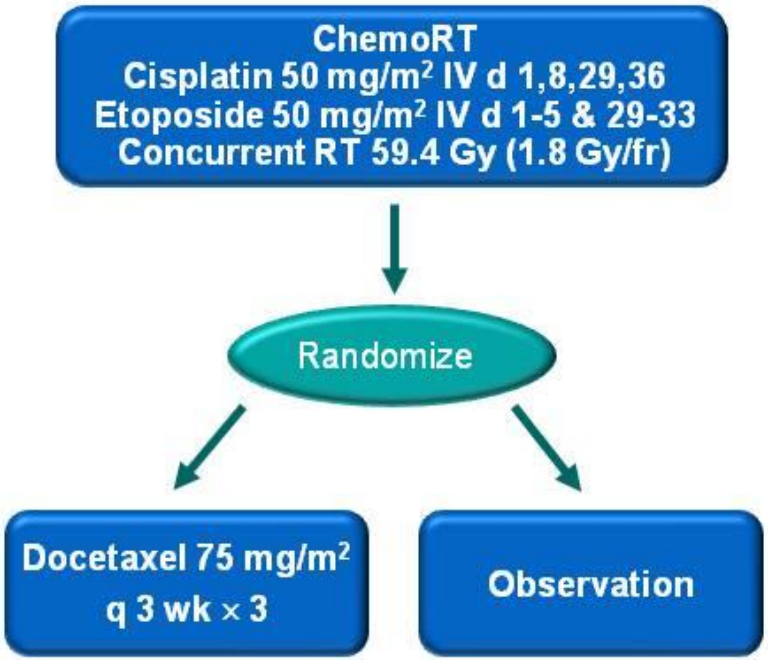
TRT – Thoracic Radiotherapy
MVP – Mitomycin, Vindesine, Cisplatin
CBDCA - Carboplatin
Doc/P – Docetaxel/Paclitaxel

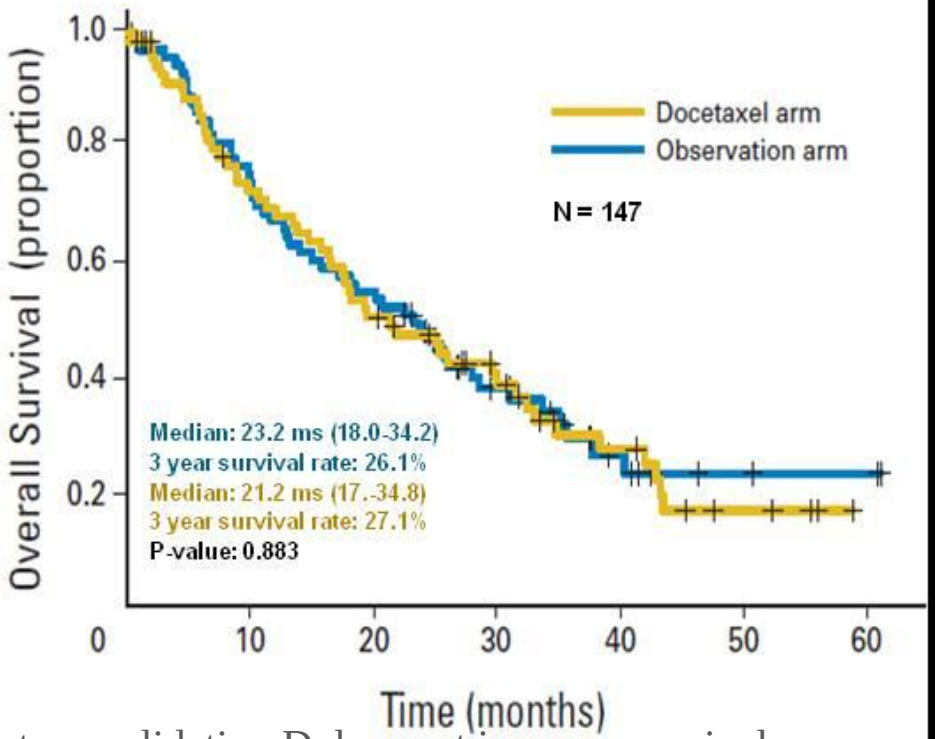
*significantly less Grade 3 and 4 neutropenia, febrile neutropenia and GI toxicities with third generation agents
** significantly less febrile neutropenia with docetaxel

Arm C was equally efficacious and exhibited a more favorable toxicity profile among three arms.
Arm C should be considered a standard regimen in the management of locally advanced unresectable NSCLC

Segawa Y, et al. J Clin Oncol 28:3299-3306, 2010

The Role of Consolidation Chemotherapy
HOG LUN 01-24/USO 02-033





Our updated results confirm our prior conclusion that consolidation D does not improve survival following EP/XRT, is associated with significant toxicities and can no longer be considered as standard treatment for pts with inoperable stage III NSCLC.

Hanna N, et al. J Clin Oncol. 26:5755-60, 2008

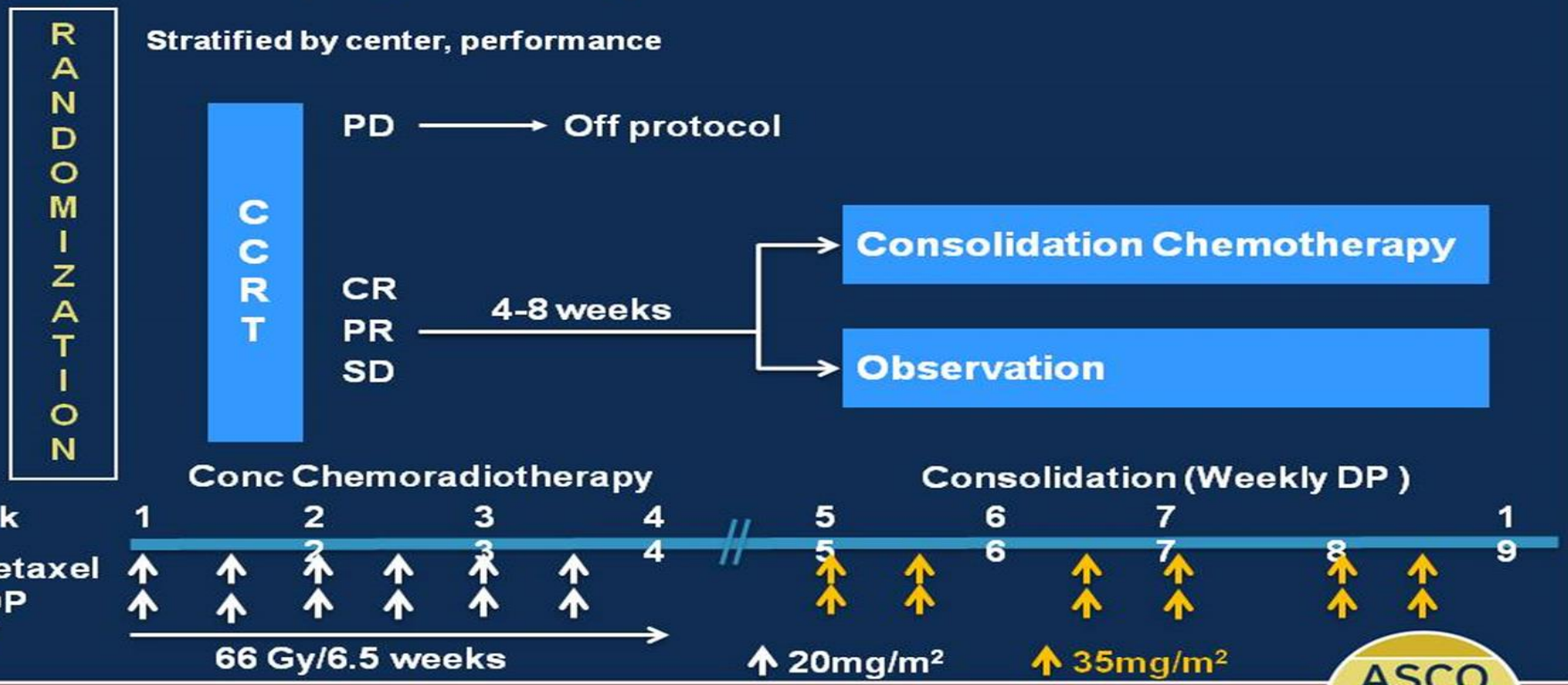
A Multinational Randomized Phase III Trial with or without Consolidation Chemotherapy Using Docetaxel and Cisplatin after Concurrent Chemoradiation in Inoperable Stage III Non-small Cell Lung Cancer (CCheIN)

Keunchil Park[1], Jin Seok Ahn[1], Myung-Ju Ahn[1], Yong Chan Ahn[1], Joo-Hang Kim[2], Chang Geol Lee[2], Eun Kyung Choi[3], Kyu Chan Lee[3], Ming Chen[4], Dae Seog Heo[5], Hoon-Kyo Kim[6], Young Joo Min[7], Jin-Hyoung Kang[8], Jin Hyuck Choi[9], Sang-We Kim[10], Guangying Zhu[11], Yi Long Wu[12], Sung Rok Kim[13], Kyung Hee Lee[14], Hong Suk Song[15]

Study Design

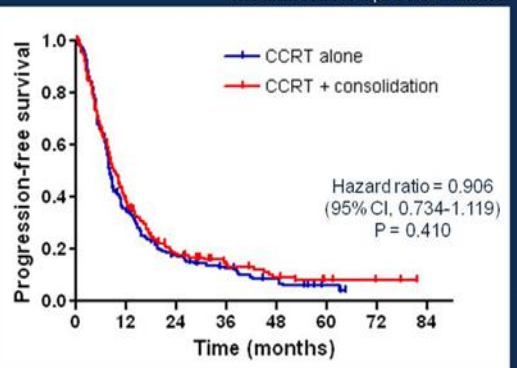
Multinational, phase III randomized trial

Locally Advanced, Inoperable Stage III NSCLC



Progression-free Survival

Median follow-up: 50.7 months



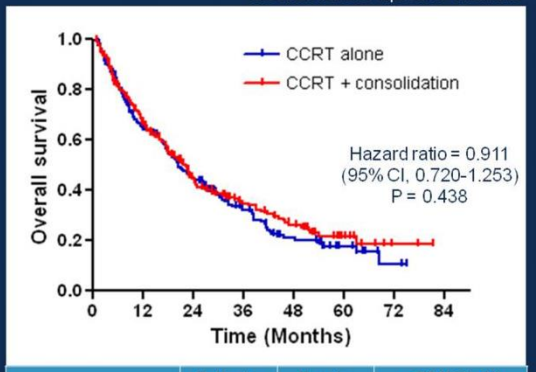
	Patients	Events	mPFS (95% CI)
CCRT alone	209	180	8.05 (7.56, 8.90)
CCRT + consolidation	211	169	9.10 (7.92, 10.94)

Presented by: Keunchil Park, M.D., Ph.D.

PRESENTED AT: ASCO 50 ANNUAL MEETING SCIENCE & SOCIETY

Overall Survival

Median follow-up: 50.7 months



	Patients	Events	mOS (95% CI)
CCRT alone	209	145	20.63 (17.58, 26.28)
CCRT + consolidation	211	134	21.78 (17.71, 24.74)

Presented by: Keunchil Park, M.D., Ph.D.

PRESENTED AT: ASCO 50 ANNUAL MEETING SCIENCE & SOCIETY

- The primary endpoint of increased PFS with the addition of weekly docetaxel-cisplatin consolidation chemotherapy was not met in the present study.
- Concurrent chemoradiotherapy alone should remain as the standard of care for inoperable stage III NSCLC.

CONSOLIDATION CT DOES NOT IMPROVE THE SURVIVAL(PFS/OS)

Induction vs Consolidation

Study	Yr	Strategy	No	MST	3 yr
GFPC-GLOT-IFCT	2006	Induction-->Concurrent	64	19	<25%
		Concurrent-->Consolidation	63	16	<25%
SLCG	2005	Induction-->Concurrent	68	22	~20%
		Concurrent-->Consolidation	67	14	~20%
LAMP	2005	Induction-->Concurrent	74	13	15%
		Concurrent-->Consolidation	92	16	17%

Induction vs Consolidation

Study	Yr	Strategy	No	MST	3 yr
GFPC-GLOT-IFCT	2006	Induction-->Concurrent	64	19	<25%
		Concurrent-->Consolidation	63	16	<25%
SLCG	2005	Induction-->Concurrent	68	22	~20%
		Concurrent-->Consolidation	67	14	~20%
LAMP	2005	Induction-->Concurrent	74	13	15%
		Concurrent-->Consolidation	92	16	17%

- NO DIFFERENCE IN SURVIVAL

IN

INDUCTION FOLLOWED BY CONCURRENT CT RT

Vs

CONCURRENT CT RT FOLLOWED BY CONSOLIDATION CT

The Role of Maintenance Therapy
SWOG 0023

Definitive TX

CDDP 50 mg/2
d 1,8,29,36
VP-16 50 mg/m2
d1-5, 29-33
XRT 1.8- 2 Gy/d
61 Gy

Consolidation

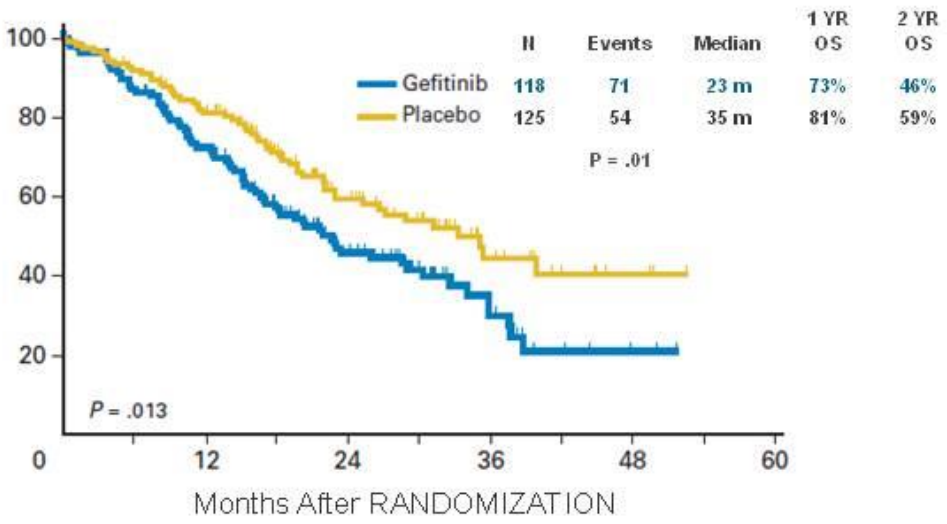
DOCETAXEL
75 mg/m2
x 3 cycles

Maintenance

RANDOMIZE

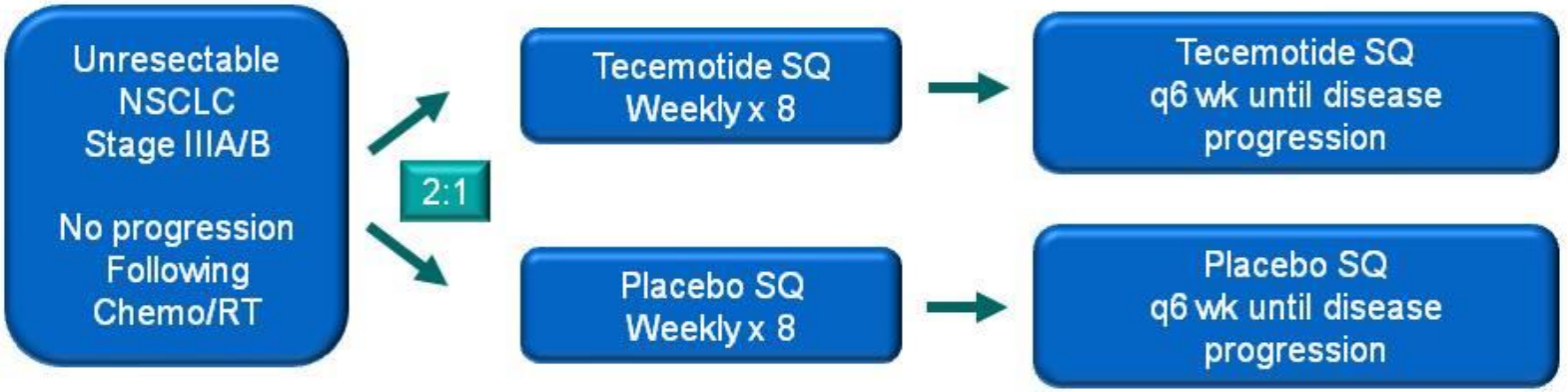
PLACEBO

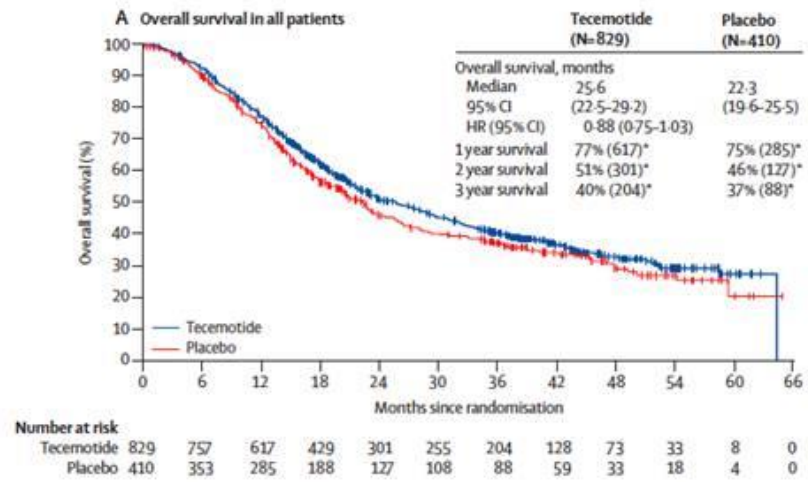
GEFITINIB
500 mg/day
250 mg/day
(5-1-03)

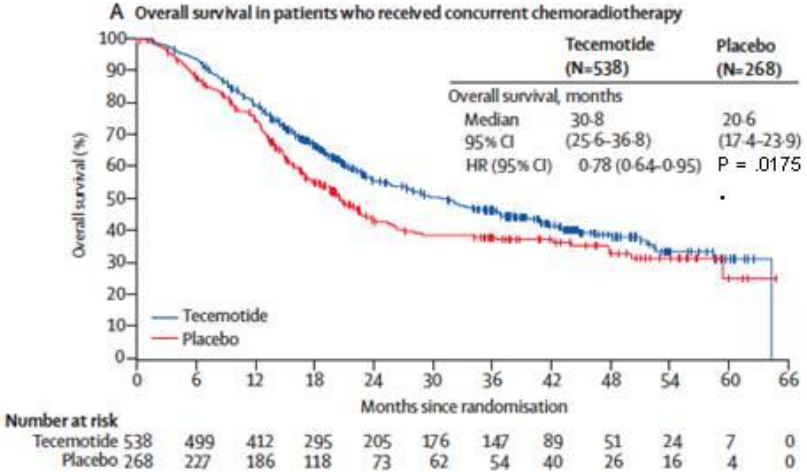


Kelly K, et al. J Clin Oncol. 26:2450-6, 2008

START Trial







Butts C, et al. Lancet Oncol 15:59-68, 2014

MAINTENANCE THERAPY DID NOT IMPROVE THE SURVIVAL

Treatment Strategies for Unresectable Stage III NSCLC

CONCURRENT CHEMORADIOTHERAPY

- Induction Chemotherapy
- Consolidation Chemotherapy
- Maintenance Therapy

60 years Male

- History of Smoking
- Clinical presentn : Cough & Hemoptysis – 6 months
- Chest Pain – 4 months
- CT Scan Thorax : Mass of size 4 cm x 3.6 x 3 cm at Lt Lower lobe with inv of subcarinal and Rt Mediastinal Lymph nodes
- No evidence of distant Metastasis
- CT Guided Biopsy: Adenocarcinoma
- Patient has EGFR deletion

What is the stage of the disease STAGE :- IIIB

What is the most appropriate treatment

1. **Surgery followed by adjuvant treatment :-** X
2. **Radiation alone :-** X
3. **CT followed by RT** X
4. **Concurrent CT, RT**
5. **Concurrent CT, RT followed by consolidation CT** X
6. **Concurrent CT,RT followed by maintenance** CT X

TAKE HOME MESSAGE

1. CONTINUOUS RT OF 60 Gy IS BETTER THAN SPLIT COURSE 40 Gy RT
2. NEOADJUVANT CT FOLLOWED BY RT IS SUPERIOR THAN RT ALONE
3. LOCAL CONTROL AND SURVIVAL IS BETTER IN CONCURRENT DAILY CDDP ARM THAN WEEKLY CDDP
4. CONCURRENT CT RT IS BETTER THAN SEQUENTIAL CT RT
5. INDUCTION CT FOLLOWED BY CONCURRENT CT RT DO NOT SHOW STATISTICALLY SIGNIFICANT SURVIVAL ADVANTGES OVER CONCURRENT CT RT

TAKE HOME MESSAGE

6. 3RD GENERATION CT IS EQUALLY EFFECTIVE BUT LIMITED TOXICITY.TAXANE + PLATINUM IS BETTER CHOICE FOR CONCURRENT CT RT.
7. CONSOLIDATION CT DOES NOT IMPROVE THE SURVIVAL(PFS/OS)
8. NO DIFFERENCE IN SURVIVAL IN INDUCTION FOLLOWED BY CONCURRENT CT RT Vs CONCURRENT CT RT FOLLOWED BY CONSOLIDATION CT
9. MAINTENANCE THERAPY DID NOT IMPROVE THE SURVIVAL

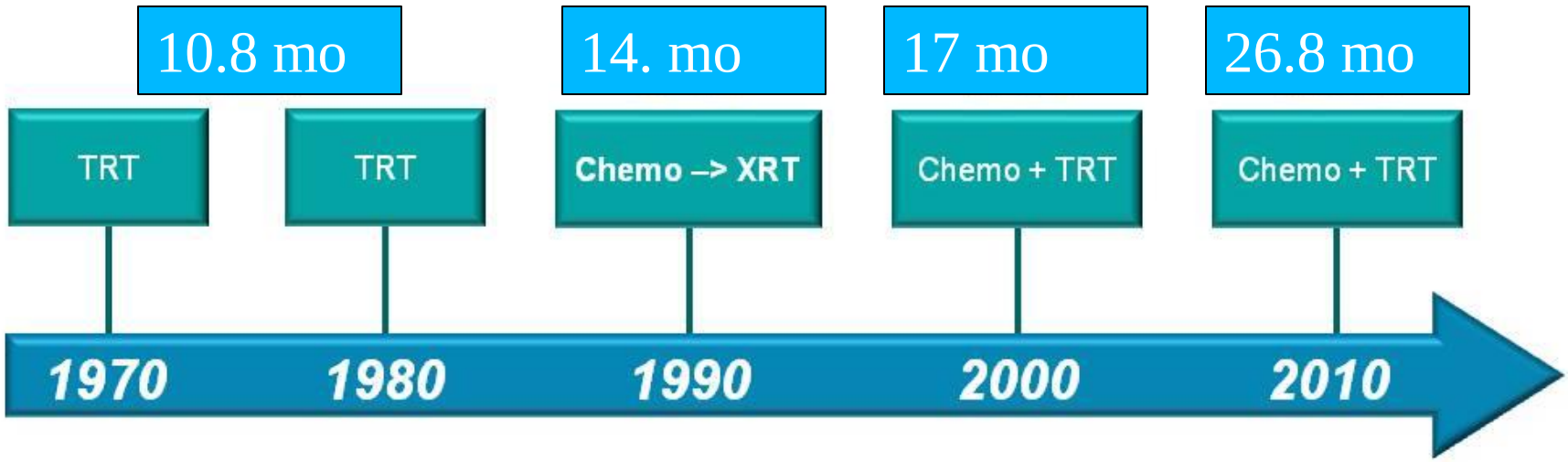
Treatment Strategies for Unresectable Stage III NSCLC

CONCURRENT CHEMORADIOTHERAPY

- Induction Chemotherapy
- Consolidation Chemotherapy
- Maintenance Therapy
- Integration of Novel Cytotoxic & Targeted Agents into Chemoradiotherapy

Conclusion

- Over the past 50 years combined modality regimens for inoperable stage III NSCLC have almost tripled the median survival of this disease.




Lung cancer does not take a vacation!
THANK YOU!
myHDwallpapers.net