

XXV CONGRESSO NAZIONALE

AIRO 2015

PALACONGRESSI - Rimini, 7-10 novembre



**L'ISTOLOGIA E LO SCHEMA DI CHEMIOTERAPIA INFLUENZANO
I RISULTATI DEL TRATTAMENTO RADIO-CHEMIOTERAPICO
NEOADIUVANTE NEL NSCLC LOCALMENTE AVANZATO?**

Floreno B., Molfese E., Di Donato A., Sicilia A., Trecca P., Silipigni S.,
Ippolito E., D'Angelillo R.M., Ramella S., Trodella L.

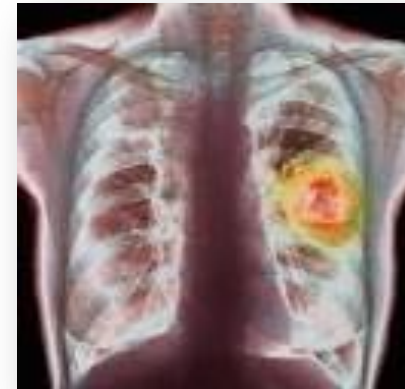
Università Campus Bio-Medico di Roma - Via Álvaro del Portillo, 21 - 00128 Roma – Italia
www.unicampus.it



**UNIVERSITA'
CAMPUS
BIO-MEDICO
DI ROMA**

Objectives

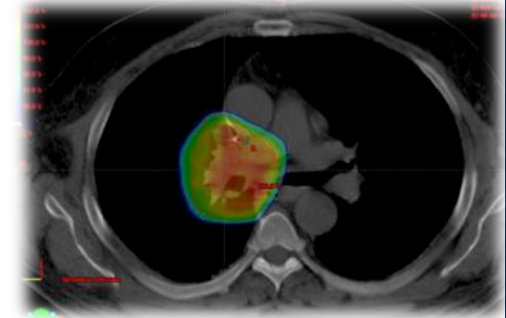
Individual data of **199 patients** with LA-NSCLC who underwent **induction chemoradiation followed by surgery in 4 consecutive trials** have been reviewed to determine the benefit of such strategy.



Materials and Methods

All patients underwent induction radio-chemotherapy followed by surgery in a **15-year period (from 1992 to 2007)**.

Radiotherapy was delivered to all cases with an involved field technique (Elective Nodal Irradiation was never administered) up to a total dose of 50.4 Gy with a daily fraction of 1.8 Gy.



Concurrent chemotherapy included:

- Carboplatin/Cisplatin and 5-Fluorouracil (5-FU);
- Gemcitabine alone;
- Gemcitabine and Cisplatin (P-GEM).



Results

Characteristics of the study group (199 pts)

	Patients n (%)		Patients n (%)		
Age	Mean (years)	63.4 ± 9.1	Histological Subpopulation		
	Range (years)	26-82		Squamous	95 (48%)
	< 70 years	155 (78%)	Non-squamous	104 (52%)	
	70 + years	44 (22%)	Clinical Stage	St IIIA	129 (65%)
Gender	Male	173 (87%)		St IIIB	70 (35%)
	Female	26 (12%)	Concurrent CT	P-5FU	87 (44%)
Histology	Squamous	95 (48%)		Gemcitabine	62 (31%)
	Adenocarcinoma	83 (42%)		P-GEM	50 (25%)
	Large cell	16 (8%)			
	Adenosquamous	2 (1%)			
	Others	3 (1%)			



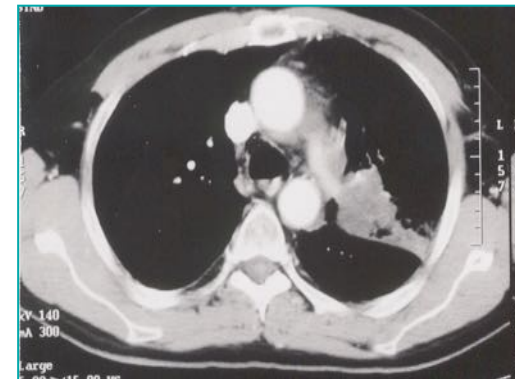
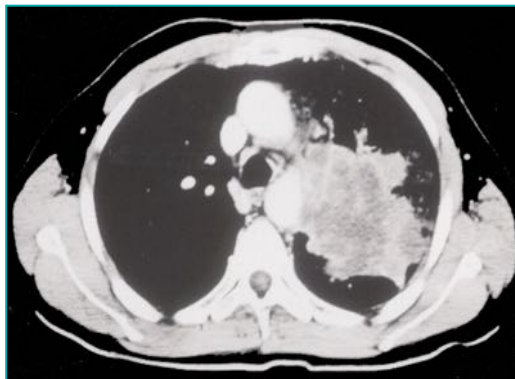
Results: Toxicity (G3-G4)

	P-5FU	only Gem	P-Gem
Haematological	5,5%	8,7%	30%
No haematological	2,2%	6,5%	8%



Results: response rate

Clinical Response	
Partial (PR)	148 (74%)
Stable (NC)	33 (17%)
Progression (PD)	18 (9%)



Results: surgery

Resection type	
Lobectomy or bilobectomy	91 (46%)
Pneumonectomy	35 (17%)
No resection	73 (37%)

126/199 (63%) *patients underwent surgery*

Pneumonectomy: 33% P-5FU
29% only GEM
19% P-GEM

68% with age <70 years
45% in the elderly population (p= 0,005)



Results

Clinical Response to radio-chemotherapy by demographic and clinical characteristics

	Partial Response	No Change	Disease Progression	X ² Test
	n (%)	n (%)	n (%)	p-value
Gender				
Male (n=173)	129 (75%)	28 (16%)	16 (9%)	0.908
Female (n=26)	19 (73%)	5 (19%)	2 (8%)	
Age				
< 70 years (n=155)	116 (75%)	26 (17%)	13 (8%)	0.830
70 + years (n=44)	32 (73%)	7 (16%)	5 (11%)	
Histology				
Squamous (n=95)	76 (80%)	8 (8%)	11 (12%)	0.009
Non-squamous (n=104)	72 (69%)	25 (24%)	7 (7%)	
Clinical Stage				
St IIIA (n=129)	97 (75%)	20 (16%)	12 (9%)	0.853
St IIIB (n=70)	51 (73%)	13 (19%)	6 (8%)	
Concurrent CT				
Old generation drugs (n=87)	59 (68%)	22 (25%)	6 (7%)	0.002
Gemcitabine (n=62)	49 (79%)	(16%)	3 (5%)	

Induction treatment response was significantly associated with the histological sub-population (p=0.009) and concurrent chemotherapy drug (p=0.002).

Results

Pathological stage by demographic and clinical characteristics

	St 0	St Tmic	St I	St II	St III	X ² Test
	n (%)	n (%)	n (%)	n (%)	n (%)	p-value
Gender						
Male (n=111)	22 (20%)	33 (30%)	13 (13%)	23 (21%)	19 (17%)	0.084
Female (n=15)	1 (7%)	2 (13%)	4 (27%)	2 (13%)	6 (40%)	
Age						
< 70 years (n=106)	16 (15%)	28 (26%)	17 (16%)	23 (22%)	22 (21%)	0.137
70 + years (n=20)	7 (35%)	7 (35%)	1 (5%)	2 (10%)	3 (15%)	
Histology						
Squamous (n=66)	13 (20%)	20 (30%)	9 (14%)	15 (23%)	9 (14%)	0.435
Non-squamous (n=60)	10 (17%)	15 (25%)	9 (15%)	10 (17%)	16 (26%)	
Clinical Stage						
St IIIA (n=84)	16 (19%)	22 (26%)	10 (12%)	13 (16%)	23 (27%)	0.027
St IIIB (n=42)	7 (17%)	13 (31%)	8 (19%)	12 (28%)	2 (5%)	
Concurrent CT						
Old generation drugs (n=55)	2 (4%)	14 (26%)	10 (18%)	15 (27%)	14 (26%)	0.01
Gemcitabine (n=35)	8 (23%)	13 (38%)	4 (11%)	5 (14%)	5 (14%)	
P-GEM (n=36)	13 (36%)	8 (22%)	4 (11%)	5 (14%)	6 (17%)	



Results: Overall Survival

Time-to-Event Analysis on full sample – Event: Death
(Results from the Cox regression analysis)

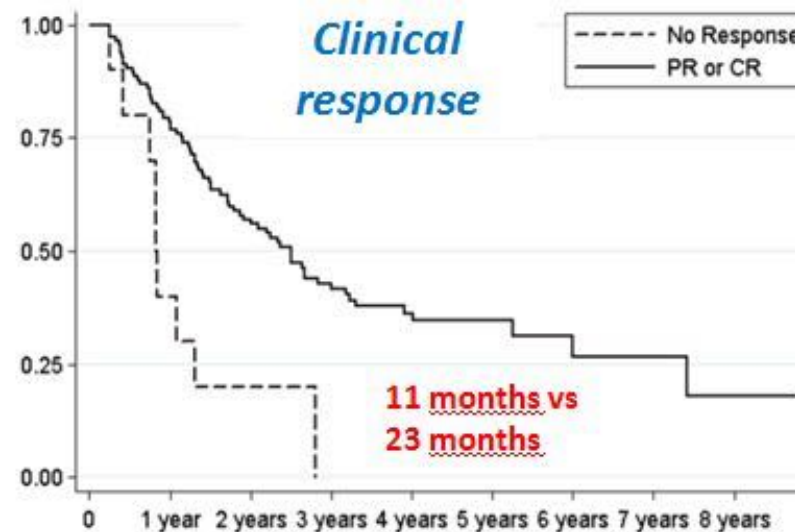
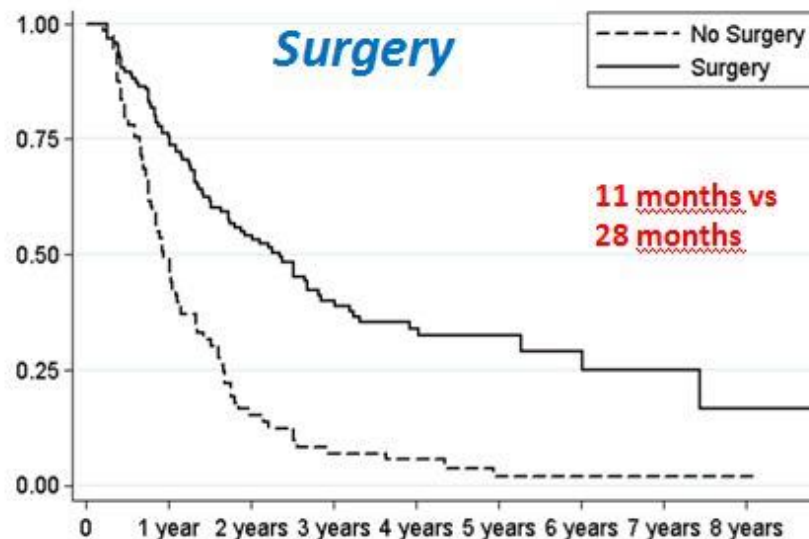
Total Sample (n=199)	Deceased (151 (76%))	Alive (48 (24%))	Cox Regression Analysis		
			HR	95% CI	p-value
n (%)	n (%)	n (%)			

Partial Response to induction CRT

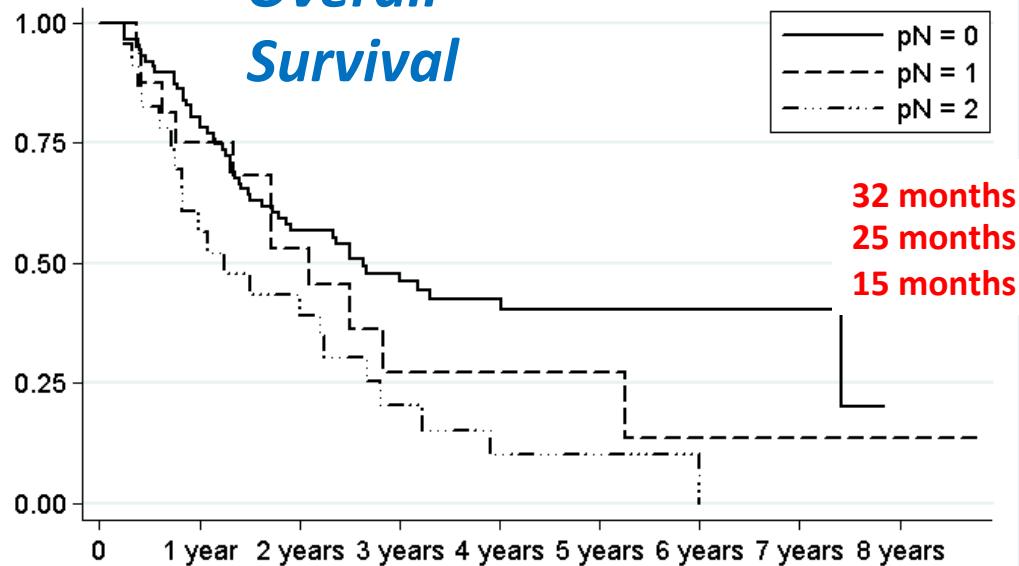
No (n=51)	51 (26%)	48 (32%)	3 (6%)	2.322	[1.636 ; 3.297]	<0.001
Yes (n=148)	148 (74%)	103 (68%)	45 (94%)	1		

Resection

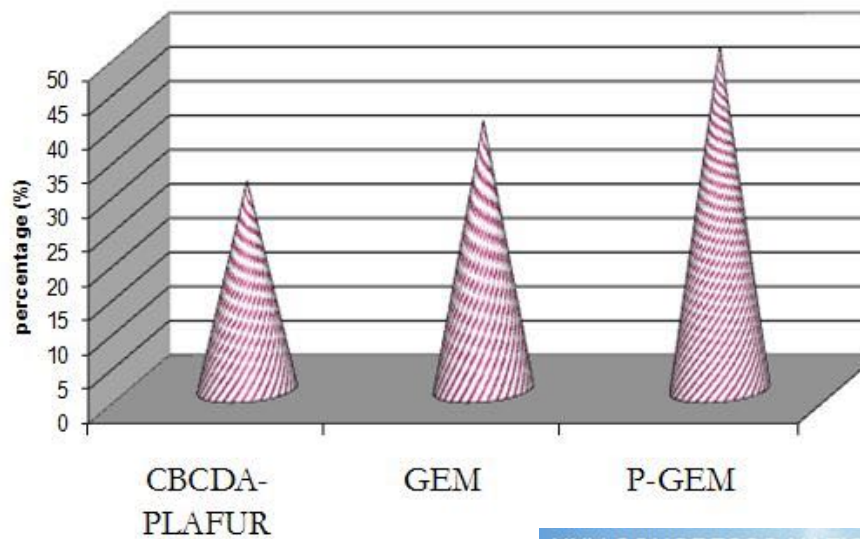
No (n=73)	73 (37%)	71 (47%)	2 (4%)	2.690	[1.94 ; 3.731]	<0.001
Yes (n=126)	126 (63%)	80 (53%)	46 (96%)	1		



Overall Survival



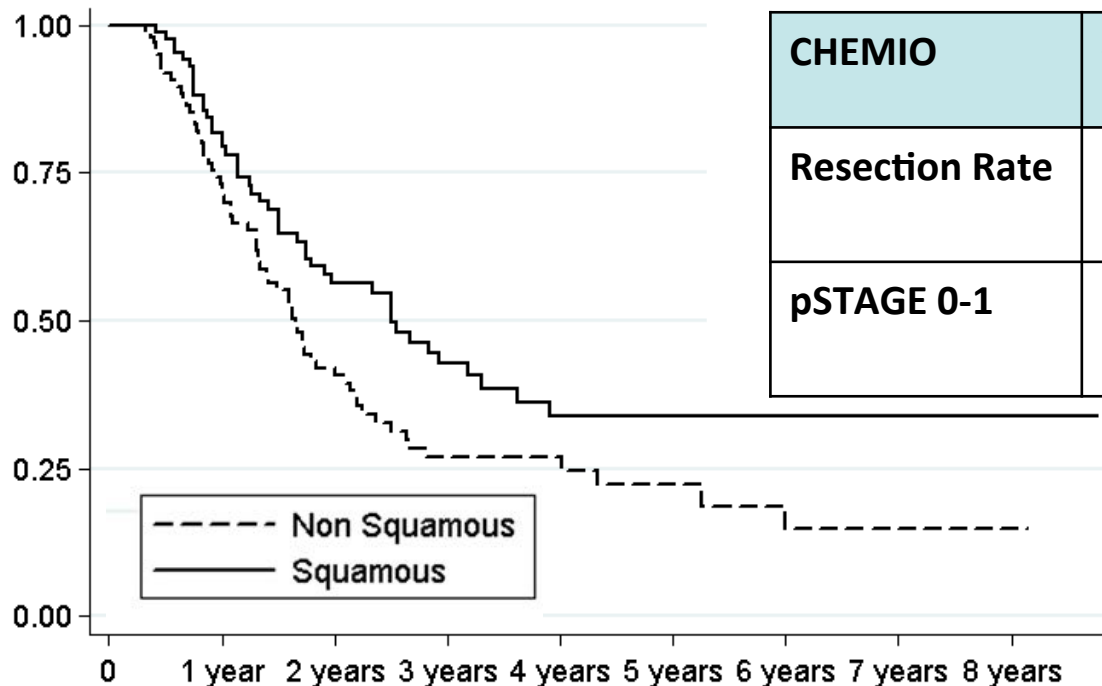
Lymphonodal clearance



Results

Response to chemotherapy by demographic and clinical characteristics

	Partial Response n (%)	No Change n (%)	Disease Progression n (%)	X ² Test p-value
Histology				
<i>Squamous (n=95)</i>	76 (80%)	8 (8%)	11 (12%)	0.009
<i>Non-squamous (n=104)</i>	72 (69%)	25 (24%)	7 (7%)	



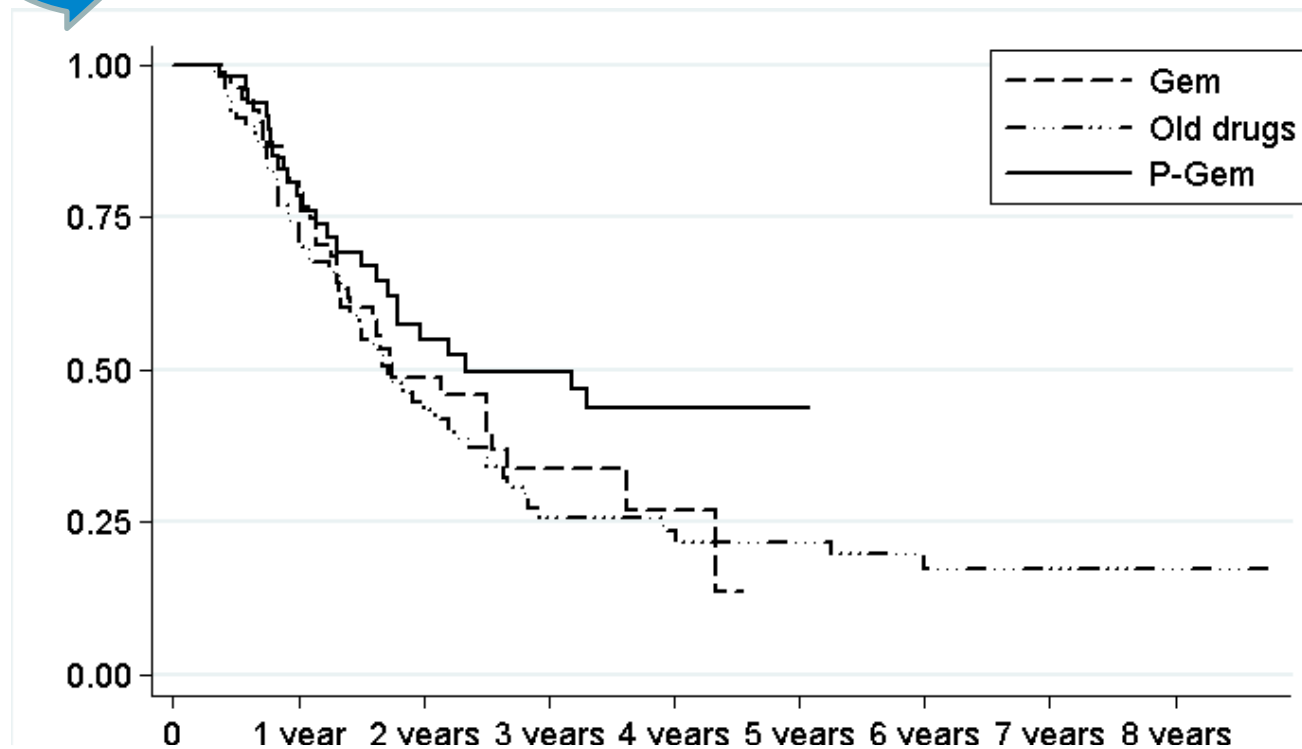
CHEMIO	GEM	no GEM
Resection Rate	74	54
pSTAGE 0-1	66	26
		p=0.034
		p=0.001

Disease specific survival according to tumor histology

Results

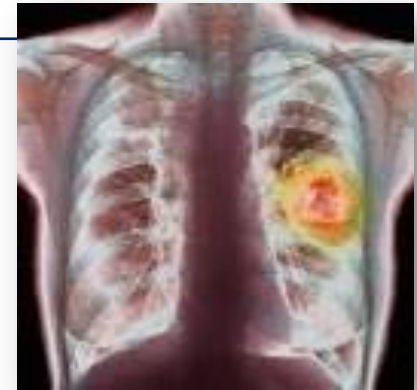
Pathological stage by demographic and clinical characteristics

	St 0 n (%)	St Tmic n (%)	St I n (%)	St II n (%)	St III n (%)	X ² Test p-value
Concurrent CT						
<i>P-5FU (n=55)</i>	2 (4%)	14 (26%)	10 (18%)	15 (27%)	14 (26%)	0.01
<i>Gemcitabine (n=35)</i>	8 (23%)	13 (38%)	4 (11%)	5 (14%)	5 (14%)	
<i>P-GEM (n=36)</i>	13 (36%)	8 (22%)	4 (11%)	5 (14%)	6 (17%)	



Disease specific survival according to concurrent chemotherapy

Conclusion



The use of new compounds influences response and resection rate, pathological downstaging and disease specific survival.

Squamous histology is significantly associated with treatment response, maybe due to the main use of Gemcitabine.

As in metastatic setting, we are choosing, in locally advanced NSCLC, chemotherapeutic compounds according to tumor histology.





Grazie per l'attenzione