

## Survival outcomes of extensive stage small cell lung cancer patients treated with consolidative thoracic radiotherapy at a tertiary cancer center

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Introduction

 $\rightarrow$  Most small cell lung cancer cases present as extensive SCLC).

**ES-SCLC** is defined as tumor extending outside the hemithorax without a tolera radiation portal.

## **STANDARD OF CARE FOR SCLC:**

- 1. Platinum-based Chemotherapy is the frontline treatment for all SCLC patier including ES-SCLC.
- 2. Consolidative Thoracic Radiotherapy (cTRT) is used in treating limited-stag (LS-SCLC).

The CREST trial demonstrated improved local control with a modest overall sur benefit at the 2-year secondary endpoint of 14% with cTRT compared to 3% with cTRT.<sup>1</sup>

## Objectives To report our institutional outcomes of patients with E SCLC theoretically eligible for the CREST study treated and without cTRT



e stage (ES-	Results	Control	cTRT	HR (95%CI): OS	HR(95%CI): PFS		Control	cTRT	HR (95%CI): OS	HR(95%CI): PFS
able	Median Age (yrs)	66.0	68.1	1.01 (0.99,1.03)	1.02 (1.00, 1.04)	Chemotherapy Characteristics				
	Sex Male Female	57 (61%) 37 (39%)	39 (71%) 16 (29%)	Ref 1.15 (0.77 <i>,</i> 1.71)	Ref 1.28 (0.88 <i>,</i> 1.86)	Number of cycles * 4 5	53 (60%) 13 (15%) 22 (25%)	25 (47%) 3 (6%) 25 (47%)	Ref 1.75 (0.95, 3.23)	Ref 1.72 (0.97, 3.04) 0.74 (0.50, 1.11)
ents	Smoking status Never Former Current	7 (8%) 57 (61%) 29 (31%)	3 (6%) 37 (67%) 15 (27%)	Ref 0.84 (0.38, 1.83) 0.86 (0.38, 1.97)	Ref 0.69 (0.33, 1.44) 0.67 (0.31, 1.45)	Cisplatin Carboplatin Carboplatin	49 (53%) 38 (41%)	23 (47%) 30 (55%) 21 (38%)	Ref 1.02 (0.68, 1.53)	Ref 1.24 (0.85, 1.80)
rvival (OS) vithout	T-stage T1 T2 T2	10 (11%) 24 (26%)	5(9%) 17 (31%)	Ref 1.83 (0.95, 3.50)	1.68 (0.89, 3.17)	Complete Response Partial Response Stable Disease	3 (4%) 58 (73%) 19 (24%)	3 (6%) 39 (75%) 10 (19%)	Ref ( CR/PR) 0.78 (0.48, 1.26)	Ref (CR/PR) 0.95 (0.61, 1.49)
	T4 ECOG at diagnosis	14 (15%) 37 (39%)	10 (18%) 22 (40%)	1.45 (0.70, 3.00) 1.88 (1.00, 3.53)*	1.26 (0.62, 2.57) 1.89 (1.02, 3.49)*	Radiation Characteristics Median Dose Median Fractionation		3000 Gy 10 frac		
S- with	0	10 (12%) 57 (69%)	7 (13%) 33 (61%)			Brain metastasis at diagnosis	20 (21%)	7 (13%)	1.10 (0.64, 1.89)	1.32 (0.82, 2.13)
	2	14 (17%) 12 (22%)	(2  or  3  vs  0  or  1)	$(2 \text{ or } 3 \times 0 \text{ or } 1)$	Liver metastasis at diagnosis*	41 (44%)	15 (27%)	1.33 (0.90, 1.97)	1.36 (0.95, 1.96)	
	3	2 (2%)	2 (4%)			cTRT vs Control			0.68 (0.46, 1.01)	0.59 (0.41, 0.86)**

Table 1. Baseline characteristics for patients who only received chemotherapy (n=94) and for patients who received both chemotherapy and consolidative thoracic radiotherapy (cTRT) (n=55). Patient characteristics were compared between two groups: CTRT and Control, using Chi-square/Fisher exact tests (\*: p<0.05; \*\*: p<0.01). Univariate (UVA) survival analysis were conducted to assess association of OS and PFS with characteristics (\*:p<0.05; \*\*: p<0.01).



Figure 1. Comparison of survival curves between tv test was used for the comparisons. (A) Progression median PFS of 0.3 years. The cTRT + chemotherapy Significant difference was present (p<0.05). (B) Ove median OS of 0.7 years, while the cTRT + chemother (p=0.053).

## Acknowledgements

I would like to ackr members of the Lo guidance.

Events/Total Median (95% CI)		Result	S			
		ot DT y	us Control	нк		
46/55 0.9 (0.8-1.1)		CIRIN	's Control	0.6		
Logrank P-value: 0.0051		<b>T-stag</b> T2 <sup>-</sup> T3 <sup>-</sup> T4 <sup>-</sup>	<b>e</b> vs T1 vs T1 vs T1	<b>1.9</b> 1.5 <b>1.9</b>		
3.0 3.5 4.0 4.5 5.0 agnosis risk 3 3 3 2 1 1 1 1 0		Table analys 1) low higher hazaro	<b>2. Associations:</b> After advice the set of t	on of OS and justment, th d to the Co eath compa sion or deat		
Events/TotalMedian (95% CI)66/940.9 (0.8-1.2)41/551.2 (1.0-1.7)		Contro compa	ols. Patients ared to those	with T sta with T stag		
Logrank P-value: 0.0527		Concl	usions c r	)ur real-wo TRT had im eceive cTRT		
3.0       3.5       4.0       4.5       5.0         agnosis	A log-rank group has a	Future 1. Eval furt 2. Con 3. Expl ben 4. Ana	<ol> <li>Future Studies and Direction:</li> <li>Evaluate the efficacy of var further corroborate our res</li> <li>Conduct further analyses i</li> <li>Explore baseline character benefit from cTRT.</li> <li>Analyze the impact of cTRT</li> </ol>			
y group has a median PFS of erall survival – The control g rapy group has a median OS o	f 0.6 years. Froup has a of 0.9 years	Signification This read of cTRT.	ance: I-world data This study	a based on affirms our		
nowledge all current and pas ok and Liu Labs for their supp	st port and	Refer	ences	[1] Slotman B Faivre-Finn C cancer: a pha		

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(95%CI): OS	HR (95%CI): PFS	
4 (0.43, 0.96) *	0.56 (0.38, 0.81)**	
6 (1.02, 3.76)*	1.68 (0.89, 3.15)	
3 (0.74, 3.18)	1.22 (0.60, 2.47)	
4 (1.04, 3.63)*	1.90 (1.03, 3.50)*	

d PFS with treatment and risk factors: Multivariable survial he hazard of death for patients in cTRT group was 36% (=HRontrol. Patients with T stage II, IV have at least 94% (=HR-1) ared to patients with T stage I. Similarly, after adjustment, the th for patients in cTRT groups was 46% lower compared to age IV have 90% higher hazard of progression or death ge I. \*: p<0.05; \*\*: p<0.01.

orld data demonstrated that ES-SCLC patients treated with proved OS and PFS compared to patients that did not

rious cTRT treatment regimens in a larger cohort to esults.

into patterns of disease progression.

ristics of patients that are associated with improved

on prevalence of treatment toxicities.

CREST eligibility criteria allowed us to assess the benefit institutional practice to offer cTRT when appropriate.

, van Tinteren H, Praag JO, Knegjens JL, El Sharouni SY, Hatton M, Keijser A, Senan S. Use of thoracic radiotherapy for extensive stage small-cell lung ase 3 randomised controlled trial. Lancet. 2015 Jan 3;385(9962):36-42.