

2023 대한심장혈관흉부외과학회

제55차 추계학술대회 & APELSO 2023

2023. 11. 02 (Thu) - 11. 04 (Sat), 그랜드 인터컨티넨탈 파르나스 서울

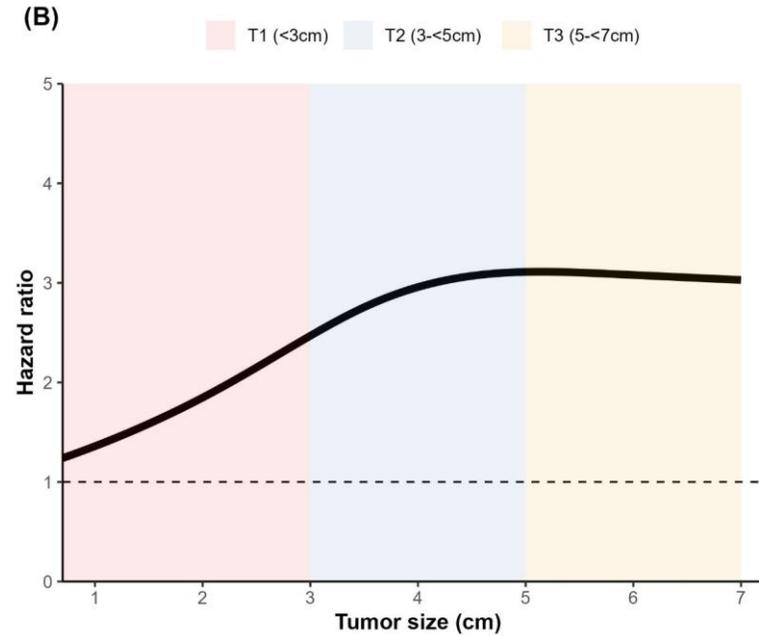
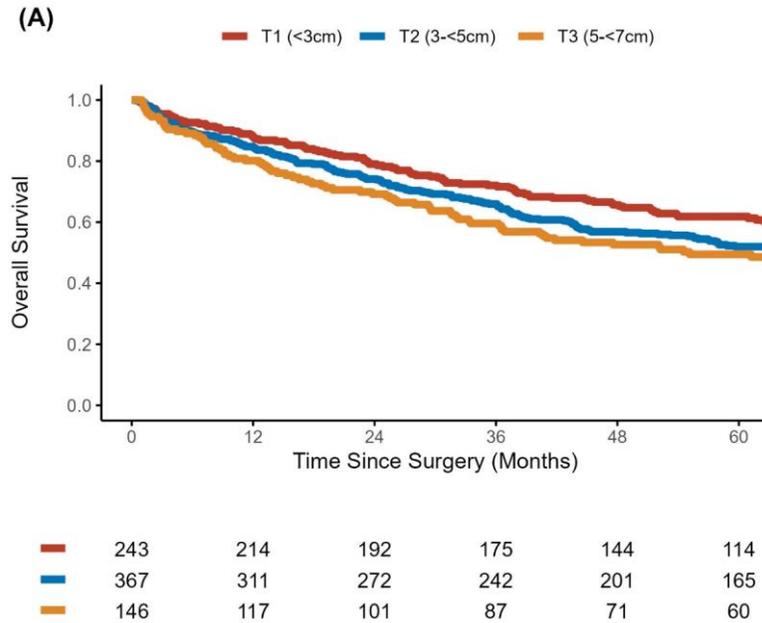
A Closer Look at the Tumor Size In N2 Non-small Cell Lung Cancer with Trimodality Therapy: By Clinical *N* Subclassification and Histology



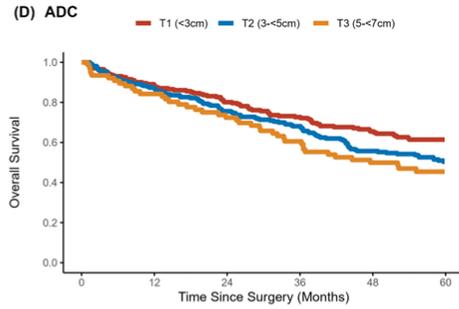
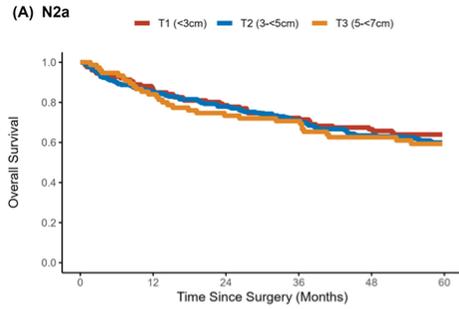
- Tumor size has been recognized as an important factor for the prognosis of non-small cell lung cancer
- With refined TNM classification considering tumor size, previously diagnosed stage IIIA NSCLCs are now upstaged to stage IIIB (T3-4N2M0)
 - 6th edition of TNM: T1 <3cm, T2 >3cm
 - 7th edition of TNM classification; T1 <3cm, 3cm < T2 < 7cm, 7cm < T3
 - 8th edition of TNM classification: T1 < 3cm, 3cm < T2 <5cm, 5cm < T3 < 7cm, 7cm < T4
- These patients (T3-4N2M0) may not be considered for neoadjuvant therapy as physicians adopt the clinical TNM into their practice. This practice may lead to under-treatment and deprive patients of their potential chance for a cure
- We aim to evaluate the association between tumor size and mortality in patients with N2 NSCLC who had trimodality therapy

- **Design:** A cohort study using the institutional thoracic surgery registry
- **Study population:** Patients with histologically confirmed clinical stage III (T1-T3) non-small cell lung cancer who underwent trimodality therapy*
- **Period:** January 2003 – February 2019
- **Exclusion criteria:** Patients who had not undergone 1) PET study (n=19) or 2) invasive mediastinal examination (n=58); 3) Patients with T3 tumors containing invasive component (n=20) or additional nodules (n=39); 4) Histology other than adenocarcinoma or squamous cell carcinoma (n=64)
- **Study participants, N=756**
- **Measurements:**
 - 1) Clinical tumor size: by pre-treatment CT imaging. Continuous values were categorized by 8th edition of TNM system (T1, T2, and T3)
 - 2) Extent of clinical N2 disease: N2a (single station N2) and N2b (multiple station n2)
- **Study outcome:** overall survival
- **Statistical analysis:** Survival analysis by **Kaplan-Meier method** and **log-rank test**. Hazard ratios were estimated using **Cox proportional hazard model** and **adjusted** for age, sex, smoking history, Charlson comorbidity index, extent of N2, and histology. The **restricted cubic spline method** was used to provide a flexible dose-response relationship between clinical tumor size and outcome. Subgroup analysis was performed by extent of clinical N2 and histology

*Trimodality therapy: neoadjuvant concurrent chemoradiotherapy followed by surgery

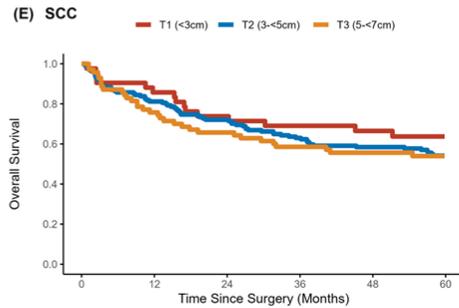
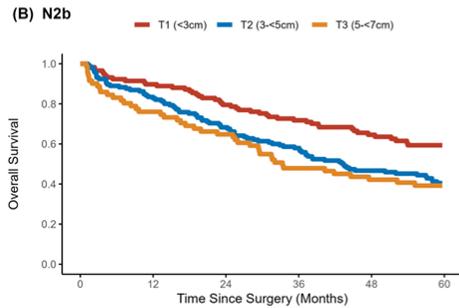


	T1 (<3cm)	T2 (3-<5cm)	T3 (5-<7cm)
Overall			
Case (IR for 1,000 people)	108 (85.9)	207 (107.6)	83 (126.3)
HR (95% CI)	<i>Reference</i>	1.46 (1.14-1.85)	1.48 (1.10-1.99)



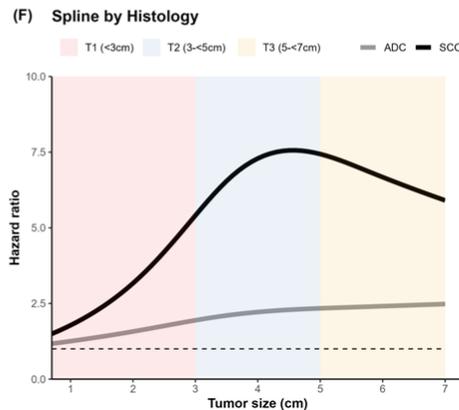
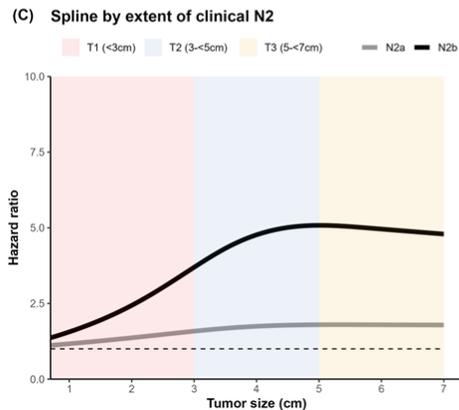
126	109	99	91	79	67
222	190	173	158	137	115
75	63	55	53	42	35

201	178	161	146	118	91
213	186	161	145	113	89
76	64	55	46	37	29



117	105	93	84	65	47
145	121	99	84	64	50
71	54	46	34	29	25

42	36	31	29	26	23
154	125	111	97	88	76
70	53	46	41	34	31



	T1 (<3cm)	T2 (3-<5cm)	T3 (5-<7cm)
Extent of clinical N2			
N2a (N = 423)			
Case (IR for 1,000 people)	54 (78.4)	112 (87.4)	35 (87.6)
HR (95% CI)	Reference	1.21 (0.87-1.69)	1.15 (0.75-1.78)
N2b (N = 333)			
Case (IR for 1,000 people)	54 (95)	95 (148.1)	48 (186.3)
HR (95% CI)	Reference	1.69 (1.20-2.39)	1.81 (1.21-2.72)
Histology			
Adenocarcinoma (N = 490)			
Case (IR for 1,000 people)	89 (86)	125 (115.7)	47 (139.9)
HR (95% CI)	Reference	1.55 (1.17-2.04)	1.50 (1.04-2.15)
Squamous cell carcinoma (N = 266)			
Case (IR for 1,000 people)	19 (85.5)	82 (97.3)	36 (112)
HR (95% CI)	Reference	1.38 (0.83-2.29)	1.40 (0.80-2.45)

Abbreviations: IR, incidence rate.

Adjusted for age, sex, smoking status, Charlson comorbidity index, clinical N category (N2a vs N2b), and histology

- In this study, larger tumor size was associated with higher mortality in patients with N2 NSCLC who had trimodality therapy
- The risk varied depending on the extent of clinical N2 and histology type: trimodality might be most beneficial to patients with N2a NSCLC regardless of tumor size and N2b NSCLC with T1 tumor
- It would be recommended to take multimodal approaches for the treatment of patients within the different subsets of N2 NSCLC: unresectable N2 NSCLC may become resectable, and surgery may add to survival by increasing locoregional control rates.
- While further study with a larger sample size with different N2 patients would be required to confirm the study findings, it might be a good strategy to stratify N2 patients based on tumor size, nodal extent, and histology to provide the most beneficial treatment