

Oncologic Emergencies in Lung Cancer:

What every clinician must know?

고려대학교 구로병원 호흡기내과 최주환



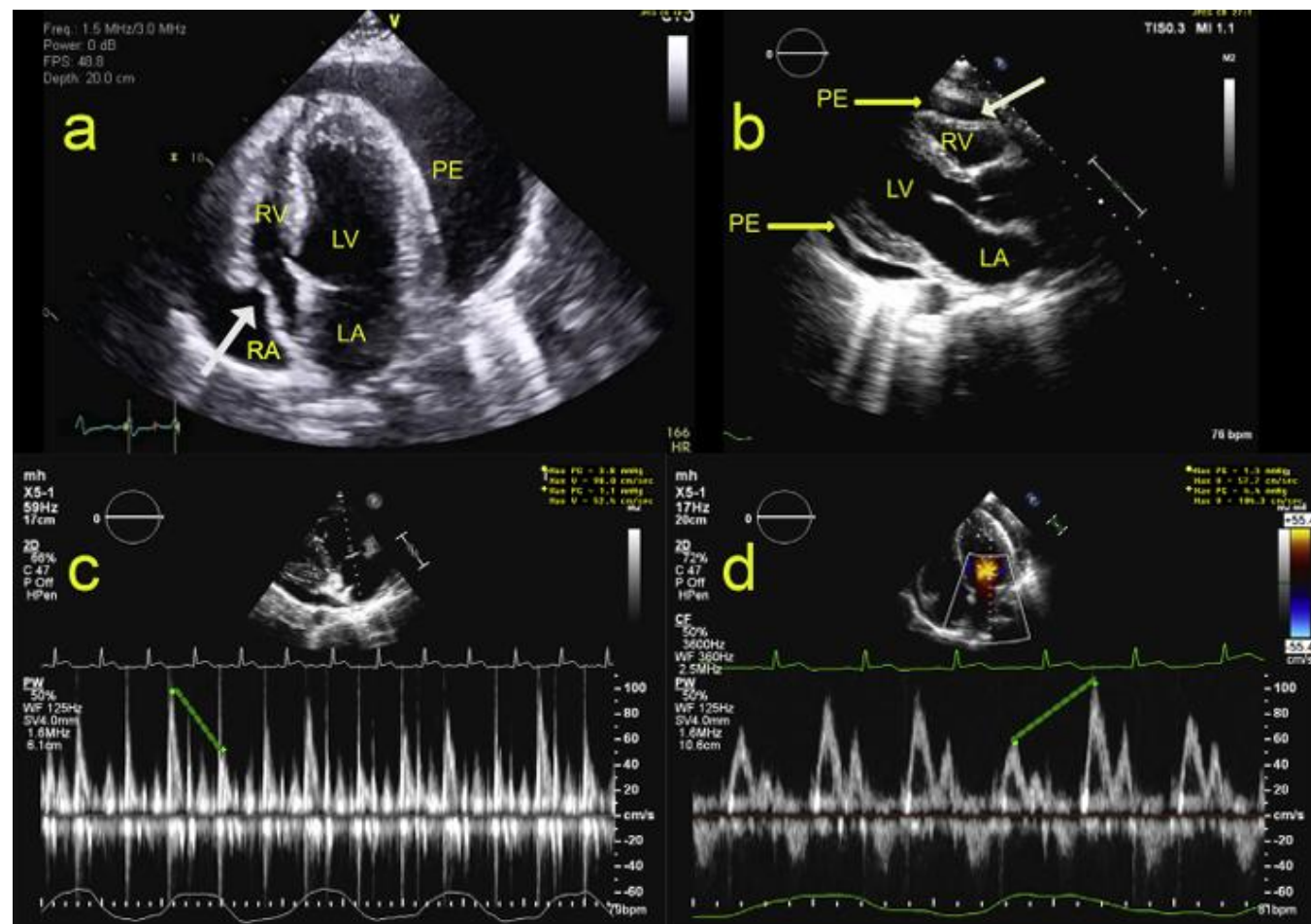
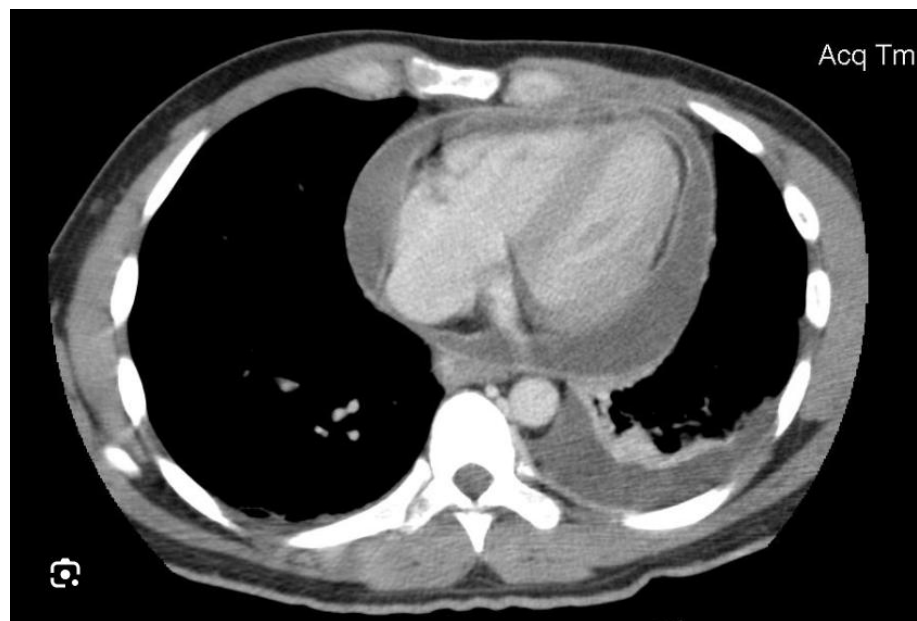
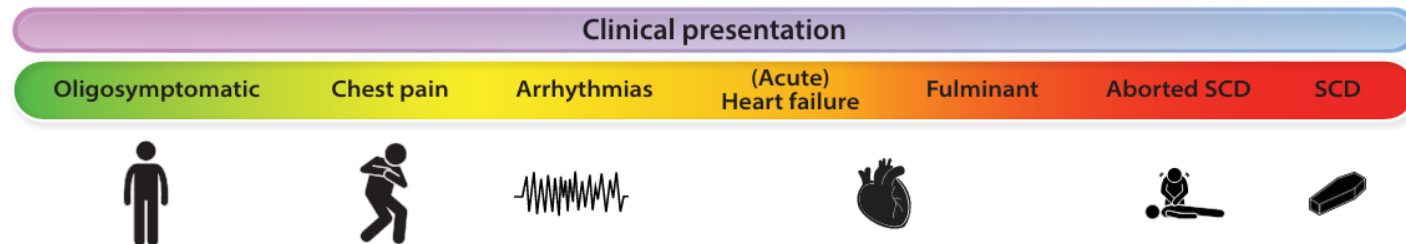
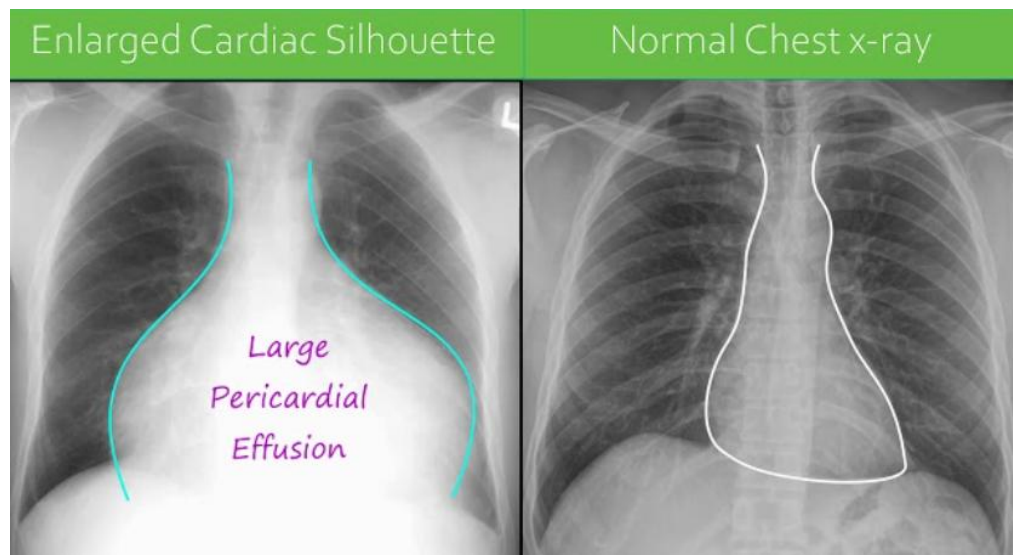
1. Symptom-Driven Oncologic Emergencies: Rapid Recognition and Immediate Management

- (1) Malignant pericardial effusion**
- (2) Hemoptysis**
- (3) Symptomatic brain metastases**

2. Treatment-Related Oncologic Emergencies in the Era of Novel Therapies

- (1) ICI-associated pneumonitis and myocarditis**
- (2) BiTE-related CRS and ICANS**
- (3) ADC-associated interstitial lung disease**

Malignant pericardial effusion



Duration

Outcomes of Cancer Patients Undergoing Percutaneous Pericardiocentesis for Pericardial Effusion

J Am Coll Cardiol. 2015 Sep 8;66(10):1119-28.

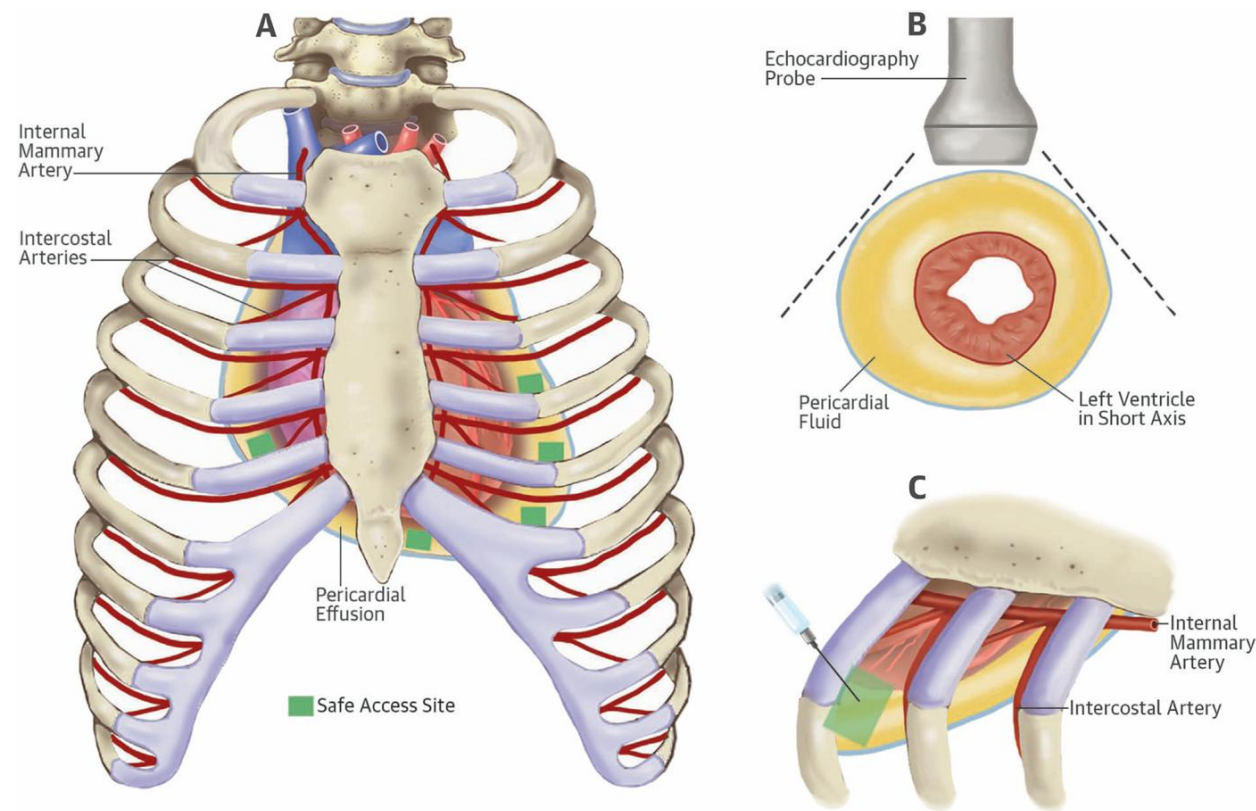


Table 10 Classification of pericardial effusion

Onset	Acute (≤ 4 weeks)
	Subacute (> 4 weeks to ≤ 3 months)
	Chronic (> 3 months)
Size ^a	Mild: < 10 mm
	Moderate: 10–20 mm
	Large: > 20 mm
Distribution	Circumferential/loculated
Composition	Transudate/exudate

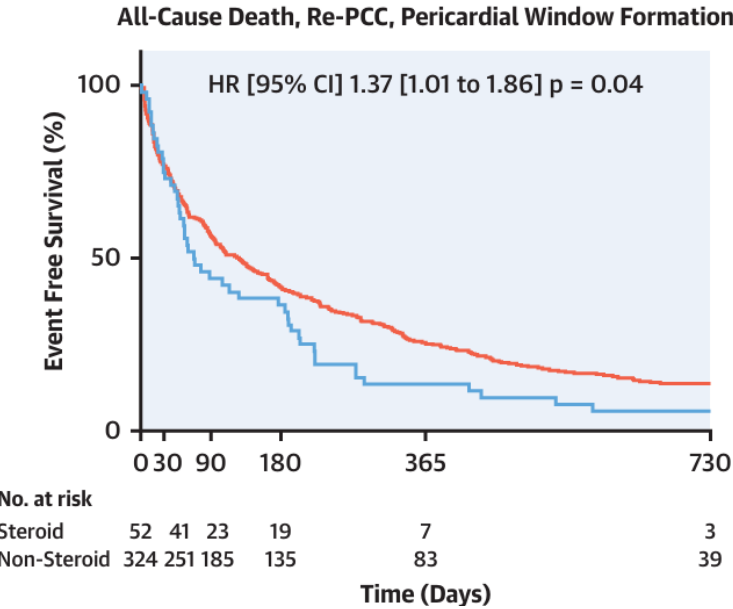
^aMaximal end-diastolic diameter.

Percutaneous pericardiocentesis with extended catheter drainage was safe and effective (successful in 99%), including in those with thrombocytopenia.
2 cases of catheter-related infections were documented among the 7 patients whose catheter drainage lasted > 7 days.

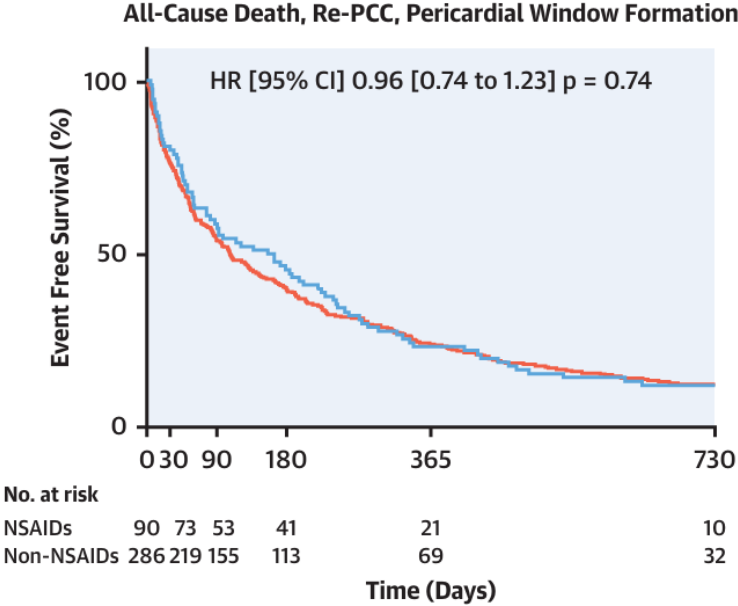
Anti-Inflammatory Drugs

Effect of Anti-Inflammatory Drugs on Clinical Outcomes in Patients With Malignant Pericardial Effusion

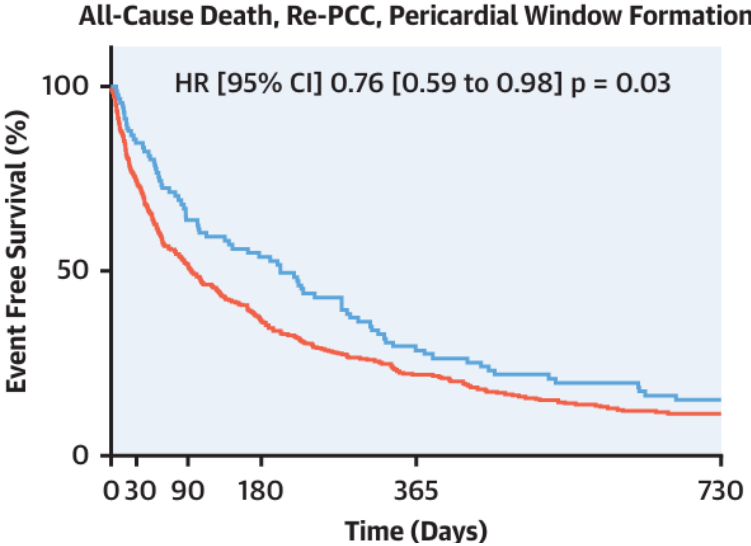
J Am Coll Cardiol. 2020 Sep 29;76(13):1551-1561.



Steroids



NSAIDs



Colchicine

2025 ESC Guidelines for the management of myocarditis and pericarditis

Developed by the task force for the management of myocarditis and pericarditis of the European Society of Cardiology (ESC)

Endorsed by the Association for European Paediatric and Congenital Cardiology (AEPC) and the European Association for Cardio-Thoracic Surgery (EACTS)

Authors/Task Force Members: Jeanette Schulz-Menger ^{†*}, (Chairperson) (Germany), Valentino Collini [‡], (Task Force Co-ordinator) (Italy), Jan Gröschel [‡], (Task Force Co-ordinator) (Germany), Yehuda Adler (Israel), Antonio Brucato [‡] (Italy), Vanessa Christian (United Kingdom), Vanessa M. Ferreira [‡] (United Kingdom), Estelle Gandjbakhch [‡] (France), Bettina Heidecker [‡] (Germany), Mathieu Kerneis [‡] (France), Allan L. Klein [‡] (United States of America), Karin Klingel [‡] (Germany), George Lazaros [‡] (Greece), Roberto Lorusso [‡] (Netherlands), Elena G. Nesukay [‡] (Ukraine), Kazem Rahimi [‡] (United Kingdom), Arsen D. Ristić [‡] (Serbia), Marcin Rucinski [‡] (Poland), Leyla Elif Sade [‡] (United States of America), Hannah Schaubroeck (Belgium), Anne Grete Semb [‡] (Norway), Gianfranco Sinagra [‡] (Italy), Jens Jakob Thune [‡] (Denmark), Massimo Imazio ^{†*}, (Chairperson) (Italy), and the ESC Scientific Document Group

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The catheter can be removed once the drainage has decreased to less than 25 to 30 ml in 24 hours.

Councils: Council for Cardiology Practice, Council of Cardio-Oncology, Council on Basic Cardiovascular Science.

Working Groups: Cardiovascular Pharmacotherapy, Cardiovascular Surgery, Myocardial and Pericardial Diseases, Pulmonary Circulation and Right Ventricular Function.

Patient Forum

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Recommendation Table 21 — Recommendations for neoplastic pericardial involvement (see Evidence Table 21)

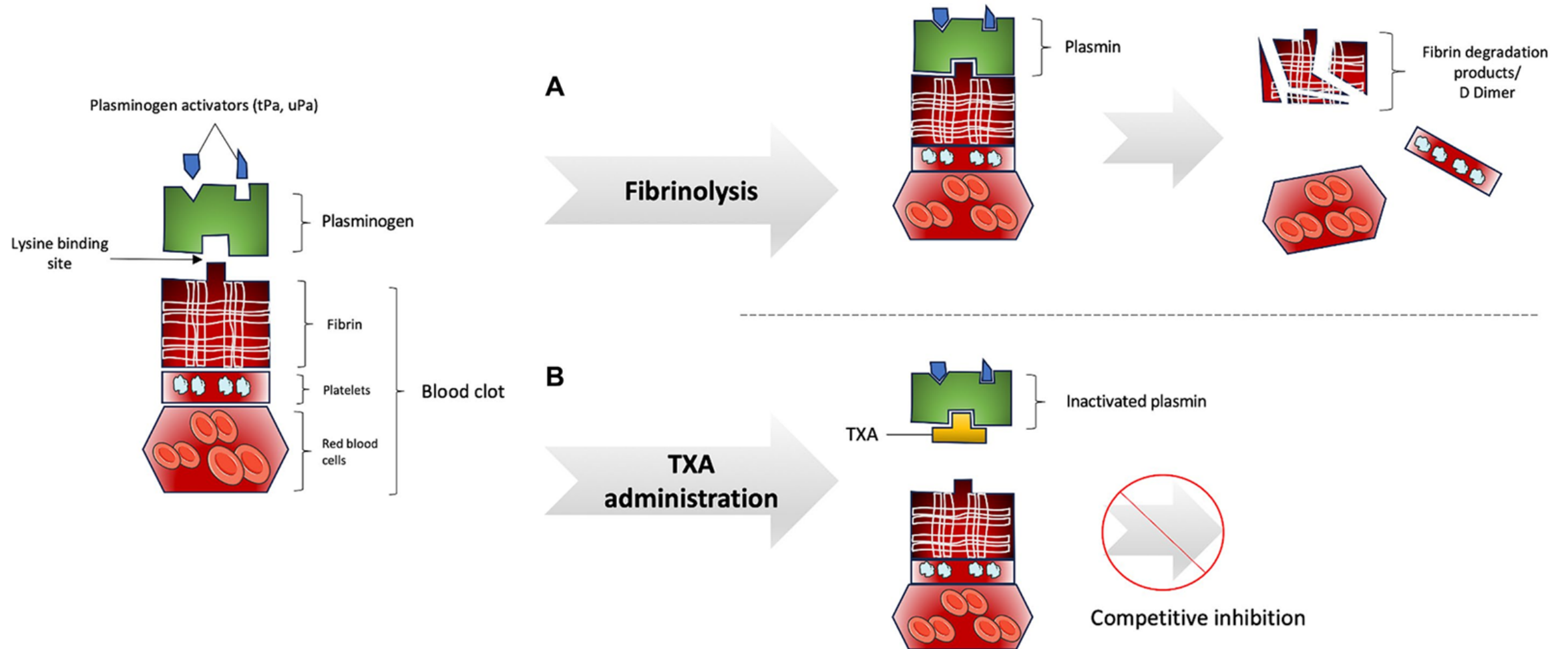
Recommendations	Class ^a	Level ^b
Pericardiocentesis is recommended for patients with cardiac tamponade to relieve symptoms and establish the diagnosis of malignant pericardial effusion. ^{576,583}	I	C
Extended pericardial drainage (3–6 days) is recommended in patients with suspected or definite neoplastic pericardial effusion to prevent effusion recurrence. ^{576,583}	I	B
Cytological analysis of pericardial fluid is recommended in patients with neoplastic pericarditis for the confirmation of malignant pericardial disease. ⁵⁸¹	I	C
Systemic antineoplastic treatment is recommended in confirmed cases of neoplastic aetiology to treat the primary and secondary metastatic neoplastic involvement. ⁵⁸²	I	C
Pericardiocentesis should be considered in patients with moderate to large pericardial effusion to establish the diagnosis of malignant pericardial effusion when the diagnosis cannot be reached by multimodality imaging. ⁵⁸⁴	IIa	C
Pericardial or epicardial biopsy may be considered in patients with suspected malignant pericardial disease when the diagnosis cannot be reached by multimodality imaging or cytological analysis, to confirm the diagnosis.	IIb	C
Intrapericardial therapy, in agreement with the oncologist, may be considered in cases refractory to systemic antineoplastic treatment.	IIb	C

Hemoptysis

Tranexamic acid

Tranexamic acid: a narrative review of its current role in perioperative medicine and acute medical bleeding

Front Med (Lausanne). 2024 Aug 7;11:1416998.



Tranexamic acid

Efficacy of tranexamic acid in haemoptysis: A randomized, controlled

Pulm Pharmacol Ther. 2016 Oct;40:80-3.

Frequency, quantity and VAS score of haemoptysis.

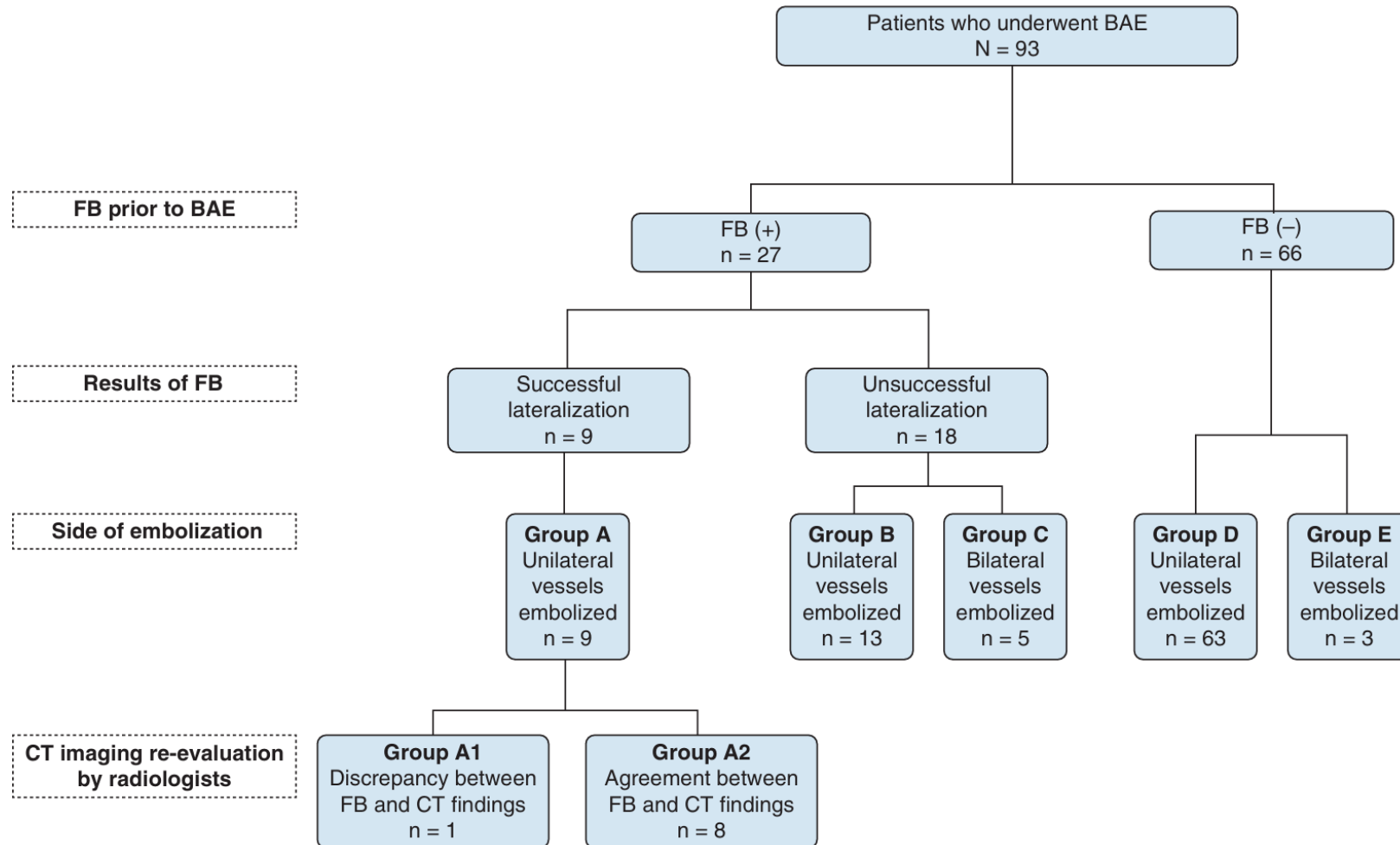
Primary outcome	Group-T (mean $\pm$ SD)			Group-C (mean $\pm$ SD)			P
Parameter	At admission	Day1	Day2	At admission	Day1	Day2	Between groups
Frequency of haemoptysis (Number of episodes/day)	3.98 (2.95)	2.70 (2.17)	2.23 (2.11)	4.00 (3.98)	2.86 (1.30)	2.29 (2.0)	0.883
Quantity of haemoptysis (ml)	267.91 (120.0)	84.3 (94.9)	34.19 (67.0)	264.2 (134.2)	145 (99.4)	90.4 (79.0)	0.073
VAS score (mm)	58.63 (16.95)		14.72 (15.7)	60.19 (15.7)		31.33 (22.12)	0.001

In group-T 16.27% patients needed intervention as compared to 38.1% in group-C (p 0.053). The mean blood transfusion (1.58 ± 0.88 & 1.67 ± 0.669 units) and hospital stay (4.14 ± 3.18 & 5.48 ± 3.26 days) was also lower in group-T as compared to group-C.

Bronchoscopy

Reevaluating the Role of Bronchoscopy Prior to Bronchial Artery Embolization in Nonintubated Patients With Hemoptysis Due to Bronchiectasis and Chronic Pulmonary Infection

CHEST Pulm. 2024 Dec 10;3(1):100128.



Bronchoscopy

Reevaluating the Role of Bronchoscopy Prior to Bronchial Artery Embolization in Nonintubated Patients With Hemoptysis Due to Bronchiectasis and Chronic Pulmonary Infection

CHEST Pulm. 2024 Dec 10;3(1):100128.

	Interval Between Last Hemoptysis		Total (N = 27)
	≤ 2 Days (n = 10)	> 2 Days (n = 17)	
Age, y	75.5 (74.25-77)	68 (64-74)	74 (64-76)
No. of male patients	3 (30)	5 (29)	8 (30)
Examination			
Observation only	4 (40)	4 (24)	8 (30)
Bacteriologic tests ^a	6 (60)	13 (76)	19 (70)
Findings			
Identification of the side of bleeding	7 (70)	2 (12)	9 (33)
Detection of new bacteria	1 ^b (10)	4 ^c (24)	5 (19)
Detection of malignancy	0 (0)	0 (0)	0 (0)
Complications	3 ^d (30)	2 ^e (12)	5 (19)

Our findings do not support the routine use of bronchoscopy prior to BAE in this population.

CIRSE Standards of Practice on Bronchial Artery Embolisation

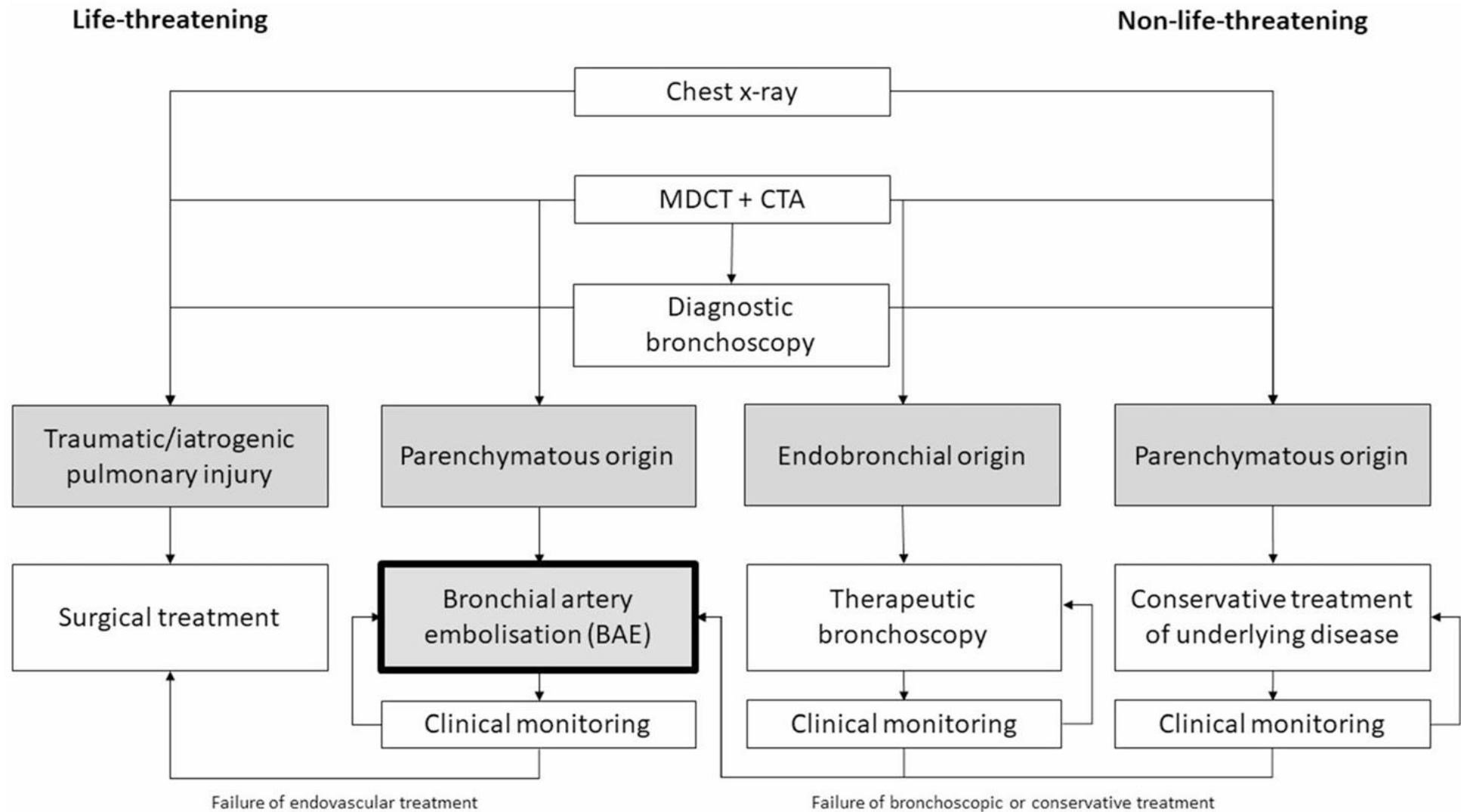
Cardiovasc Intervent Radiol (2022) 45:721–732.

CIRSE Standards of Practice on Bronchial Artery Embolisation

Cardiovasc Intervent Radiol (2022) 45:721–732.

CIRSE Standards of Practice on Bronchial Artery Embolisation

Cardiovasc Intervent Radiol (2022) 45:721–732.



Metastatic Brain Tumors

(+ Metastatic Spinal Cord Compression)

Anticonvulsant Prophylaxis and Steroid Use in Adults With Metastatic Brain Tumors: ASCO and SNO Endorsement of the Congress of Neurological Surgeons Guidelines

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PURPOSE The Congress of Neurological Surgeons (CNS) has developed a series of guidelines for the treatment of adults with metastatic brain tumors, including systemic therapy and supportive care topics. ASCO has a policy and set of procedures for endorsing clinical practice guidelines that have been developed by other professional organizations.

METHODS Two CNS guidelines were reviewed for developmental rigor by methodologists, and an independent multidisciplinary Expert Panel was formed to review the content and assess agreement with the recommendations. The Expert Panel voted to endorse the two guidelines, and ASCO and Society for Neuro-Oncology (SNO) independently reviewed and approved the ASCO/SNO guideline endorsement.

RESULTS The ASCO/SNO Expert Panel determined that the recommendations from the CNS anticonvulsants and steroids guidelines, published January 9, 2019, are clear, thorough, and based on the most relevant scientific evidence. ASCO/SNO endorsed these two CNS guidelines with minor alterations.

RECOMMENDATIONS Key recommendations include the following: prophylactic antiepileptic drugs were not recommended for routine use; and corticosteroids, specifically dexamethasone, were recommended for temporary symptomatic relief in patients with neurologic symptoms and signs related to mass effect from brain metastases. Additional information is available at www.asco.org/neurooncology-guidelines.

J Clin Oncol 37:1130-1135. © 2019 Society for Neuro-Oncology and the American Society of Clinical Oncology. This summary guideline endorsement was developed jointly by the Society for Neuro-Oncology & the American Society of Clinical Oncology. All rights reserved.

CNS Steroids Guideline⁵: Steroid Therapy Versus No Steroid Therapy

Patients with asymptomatic brain metastases without mass effect:

- Insufficient evidence exists to make a treatment recommendation for this clinical scenario.

Patients with brain metastases with mild symptoms related to mass effect:

- Level 3: Corticosteroids are recommended to provide temporary symptomatic relief of symptoms related to increased intracranial pressure and edema secondary to brain metastases. It is recommended for patients who are symptomatic from metastatic disease to the brain that a starting dose of dexamethasone 4 to 8 mg/d be considered.

Patients with brain metastases with moderate to severe symptoms related to mass effect:

- Level 3: Corticosteroids are recommended to provide temporary symptomatic relief of symptoms related to increased intracranial pressure and edema secondary to brain metastases. If patients exhibit severe symptoms that are consistent with increased intracranial pressure, it is recommended that higher doses, such as 16 mg/d or more, be considered.

Choice of steroid:

- Level 3: If corticosteroids are administered, dexamethasone is the best drug choice given the available evidence.

Duration of corticosteroid administration:

- Level 3: Corticosteroids, if administered, should be tapered as rapidly as possible, but no faster than clinically tolerated, on the basis of an individualized treatment regimen and a full understanding of the long-term sequelae of corticosteroid therapy.

ASCO/SNO Expert Panel comment: The Panel's expert opinion is that, given the important adverse effects of steroids, the minimum effective dose (often no more than 4 mg) should be used where possible and night-time doses of steroids should be avoided to minimize toxicity.

ASCO and SNO

- Steroid 사용시 기준

무증상 : Routine steroid 사용은 권장하지 않음

경도 : Dexamethasone 4-8mg/day

중등도 - 심한 증상 : Dexamethasone 16mg/day 고려

단 증상 중증도는 임상 증상 중심 (MRI 소견 X, Midline shift도 X, Edema의 크기 X), 그러나 명확한 기준안 제시 X

무증상 : MRI image (+), 증상 X

경도 : 가벼운 두통, 경미한 Nausea, vomiting, 미세한 감각 / 운동능력이상

중등도 : 지속적인 두통, 반복되는 Nausea, vomiting, 보행 불량, 인지 장애

심한 증상 : Drowsiness, 편마비, 시야장애

ASCO and SNO

- Dexamethasone을 가장 선호 > Prednisolone, methylprednisolone

- ① Mineralocorticoid 효과가 거의 없음 (고혈압, 말초부종 악화)
- ② 반감기가 길다 : Dexamethasone은 반감기가 길어서 반드시 6시간마다 투여할 필요는 없다. 가능하면 야간 투여는 불면과 섬망 등의 부작용이 있을 수 있어서 피하면 좋다. (예시) 4mg IV2 보다는 4mg 아침 + 4mg 점심
- ③ 가장 많은 논문에서 사용
- ④ 대개 투여 후 수 시간내 호전 되며, 24~72시간 이내에 최대 효과에 도달하니, 증상이 악화되면 다른 원인을 생각한다.

- 검증된 감량 권고안 X

가능한 한 빨리 감량하되, 환자가 임상적으로 견딜 수 있는 속도보다 빠르게 줄이지 않는다.

5일마다 4mg 감량 : 16mg -> 12mg -> 8mg -> 4mg

7일마다 반으로 감량 : 16mg -> 8mg -> 4mg

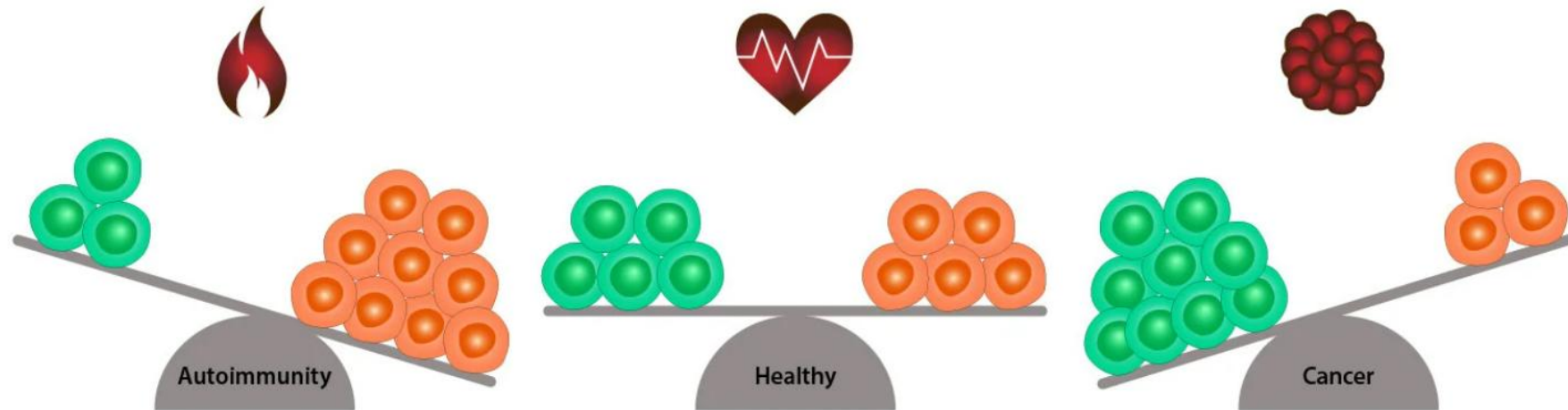
Immune Checkpoint Inhibitor



**T regulatory
cells**

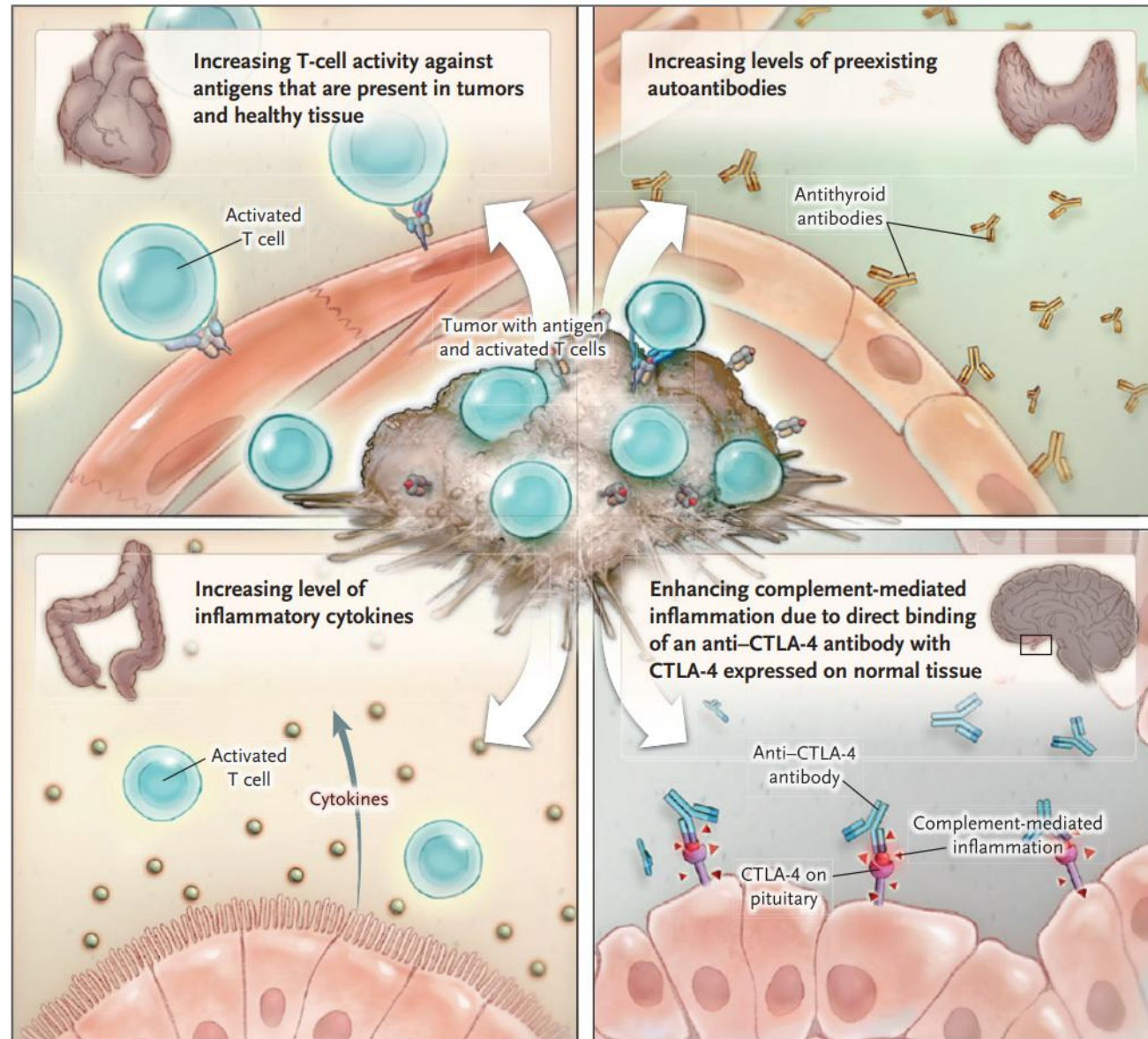


Cytotoxic lymphocyte



**Immune checkpoint
inhibitor**

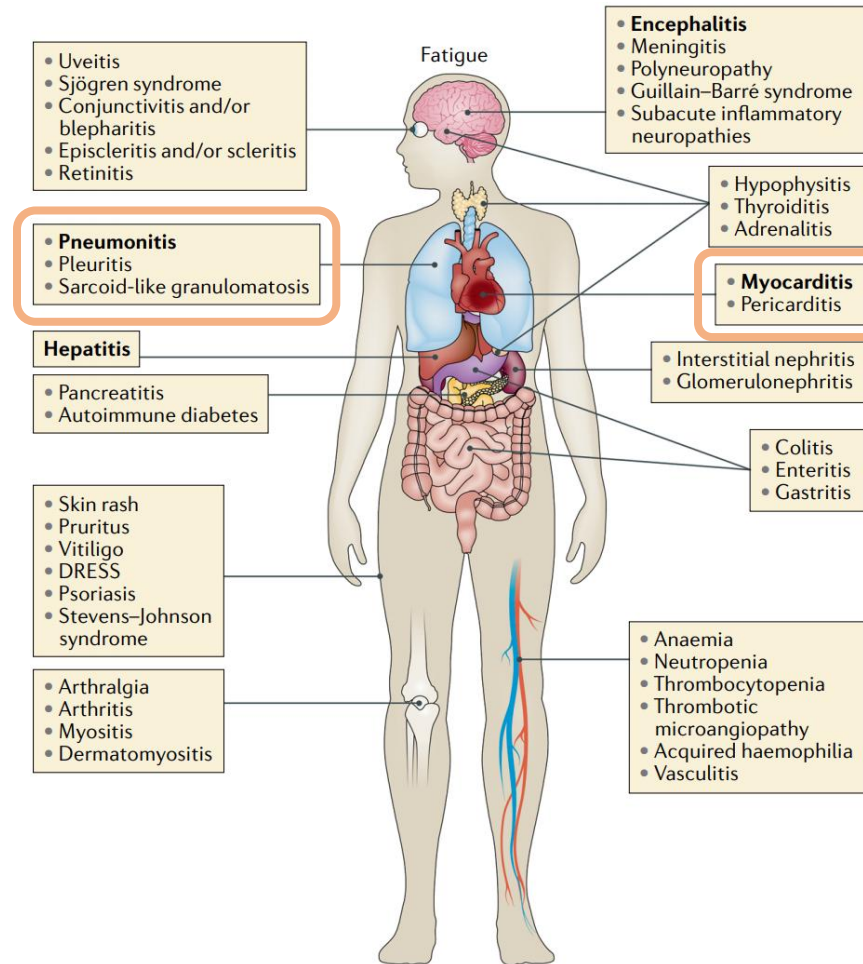
Possible mechanisms



The spectrum of immune related adverse events

Adverse effects of immune-checkpoint inhibitors: epidemiology, management and surveillance

Nat Rev Clin Oncol. 2019 Sep;16(9):563-580.



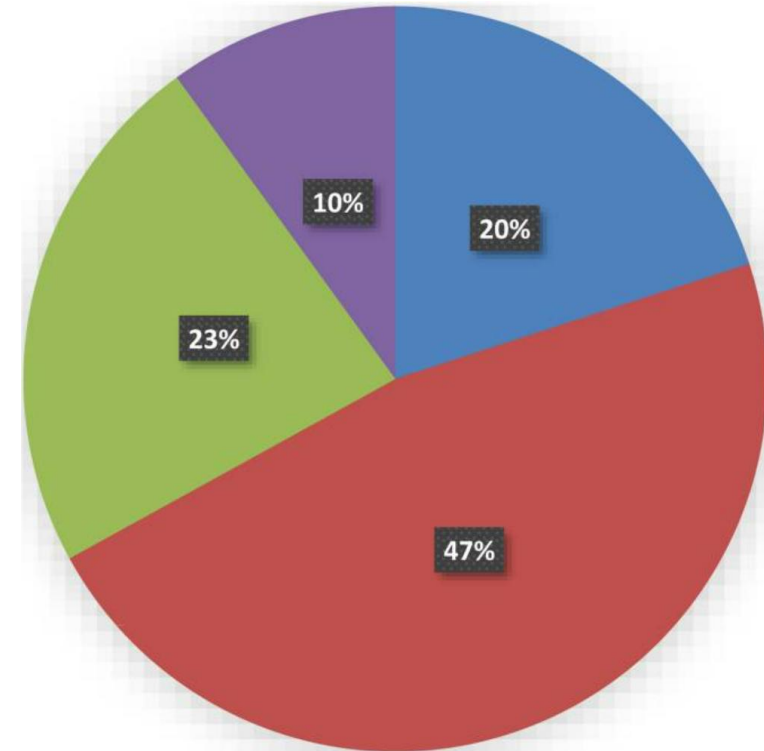
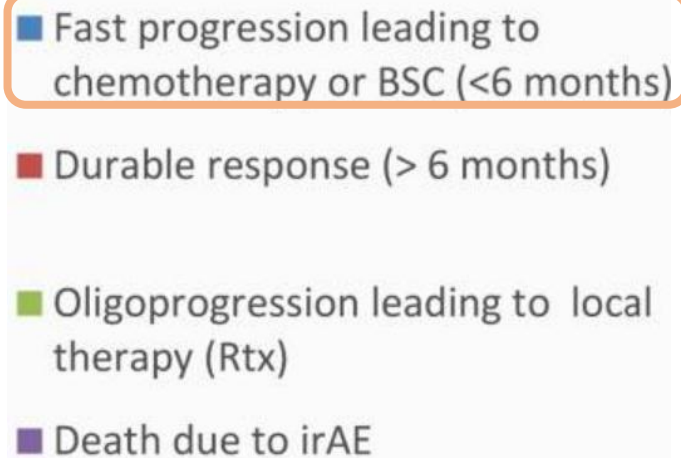
ASCO : There should always be a high level of suspicion.

What happens if we just observe it without any additional treatment?

Clinical Outcomes of Patients With Metastatic NSCLC After Discontinuation of Immunotherapy Because of Immune-Related Adverse Effects

JTO Clin Res Rep. 2022 Nov 25;4(1):100441.

- Small sample!!!, single-center retrospective observational study (N=30)
- NSCLC in whom ICI had to be discontinued owing to a serious irAEs.



A watchful waiting approach is justified after discontinuation of ICI owing to irAEs.

Time of onset

Late-Onset Immune-Related Adverse Events After Immune Checkpoint Inhibitor Therapy

JAMA Network Open. 2025;8(3):e252668.

- Retrospective observational cohort study : 2021~2025, 795 patients (Lung cancer 21.0%)

Table 2. Immune-Related Adverse Event Diagnoses by Time of Admission

Organ system	Events, No. (%)			
	All	Early (0-6 mo)	Intermediate (>6-12 mo)	Late (>12 mo)
No.	898	679	128	91
Gastrointestinal	233 (25.9)	183 (78.5)	29 (12.4)	21 (9.0)
Pulmonary	128 (14.3)	91 (71.1)	21 (16.4)	16 (12.5)
Hepatic	120 (13.4)	96 (80.0)	14 (11.7)	10 (8.3)
Endocrine	115 (12.8)	91 (79.1)	17 (14.8)	7 (6.1)
Neurologic	86 (9.6)	70 (81.4)	12 (13.9)	4 (4.7)
Cardiac	64 (7.1)	53 (82.8)	7 (10.9)	4 (6.3)
Dermatologic	53 (5.9)	36 (67.9)	10 (18.9)	7 (13.2)
Kidney	32 (3.6)	18 (56.2)	4 (12.5)	10 (31.3)
Rheumatologic	26 (2.9)	17 (65.4)	5 (19.2)	4 (15.4)
Hematologic	23 (2.6)	12 (52.2)	6 (26.1)	5 (21.7)
Other ^a	18 (2.0)	12 (66.7)	3 (16.7)	3 (16.7)

Incidence rates of immune related adverse events

Cancer and treatment specific incidence rates of immune related adverse events induced by immune checkpoint inhibitors: a systematic review

British Journal of Cancer (2025) 132:51–57.

- Systematic review : 272 studies (2017-2021), 305,879 total patients on ICI.
- General irAE occurrence across **any grade was 40.0% (37.3–42.7%)**, and **high grade was 19.7% (15.8–23.7%)**
- ICI monotherapy was 30.5% (28.1–32.9%), and ICI combination therapy 45.7% (29.6–61.7%).

Study design	ICI study population	Number of patients with irAE
Cohort or observational	129,502 [*]	16,365 [†]
Clinical trial or subset analysis	9783	2496
Experimental, exploratory, or pilot	27,400	4367 [‡]
Case control or matched case control	23,693 [§]	3323
Pharmacovigilance or surveillance	54,767	23,705 [¶]
Systematic review and/or meta-analysis	60,734 ^{#§}	8035 ^Δ

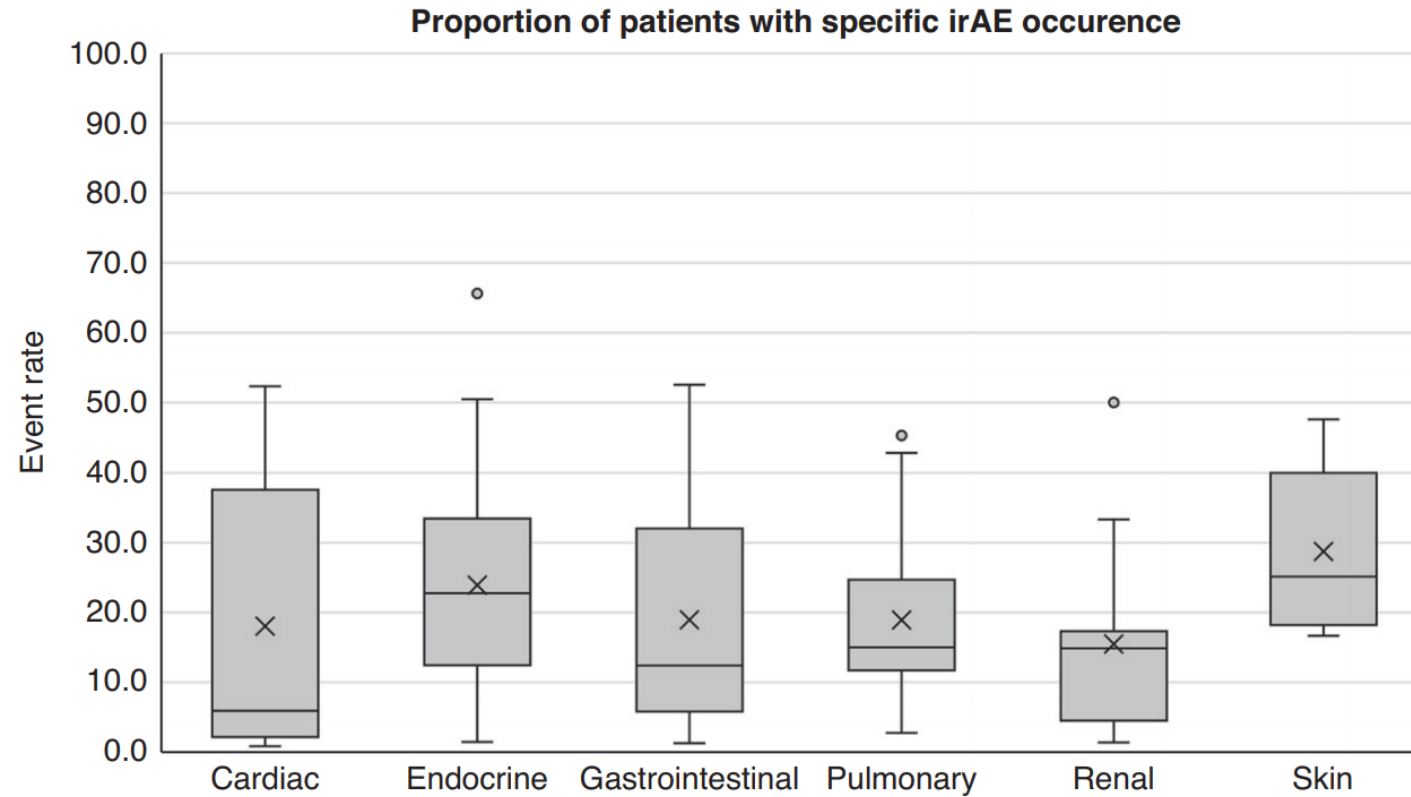
Clinical trial : 25.5% (2,496/9783)

Pharmacovigilance or surveillance : 43.3% (23,705/54,767)

Incidence rates of immune related adverse events

Cancer and treatment specific incidence rates of immune related adverse events induced by immune checkpoint inhibitors: a systematic review

British Journal of Cancer (2025) 132:51–57.



Skin (28.7%), Pulmonary (18.9%), Cardiac (18.0%)



NCCN Guidelines Version 1.2025

Management of Immune Checkpoint Inhibitor-Related Toxicities

PRINCIPLES OF ROUTINE MONITORING FOR IMMUNE CHECKPOINT INHIBITORS

Pre-Therapy Assessment ^a	Monitoring Frequency ^b	Evaluation for Abnormal Findings/Symptoms
Pituitary/Adrenal (ICI_ENDO-4) Consider serum cortisol (morning preferred) and thyroid function as above	Consider repeating every 4–6 weeks during immunotherapy (immuno-oncology [IO]-only regimens ^c), then follow-up every 12 weeks as indicated	Morning serum cortisol, adrenocorticotrophic hormone (ACTH), TSH, FT4, luteinizing hormone (LH), follicle-stimulating hormone (FSH), testosterone, estradiol (premenopausal individuals), and cosyntropin stimulation test only as indicated
Pulmonary (ICI_PULM-1) - Oxygen saturation (resting and with ambulation) - Consider pulmonary function tests (PFTs) with diffusion capacity for patients who are high risk (eg, interstitial lung disease on imaging, chronic obstructive pulmonary disease [COPD], previous suspected treatment-related lung toxicity) - In the absence of prior imaging, consider a chest x-ray	Repeat oxygen saturation tests based on symptoms	Chest CT with contrast to evaluate for pneumonitis, biopsy, or bronchoscopy with bronchoalveolar lavage (BAL) if needed to exclude other causes
Cardiovascular (ICI_CARDIO-1) - Consider baseline electrocardiogram (ECG) - Consider high-sensitivity troponin and N-terminal prohormone B-type natriuretic peptide (NT-proBNP) - Individualized assessment in consultation with cardiology as indicated	Consider periodic testing for those with abnormal baseline or symptoms ^d	Individualized follow-up in consultation with cardiology as indicated
Musculoskeletal (ICI_MS-1) Joint examination/functional assessment as needed for patients with pre-existing disease	No routine monitoring needed if asymptomatic	Consider rheumatology referral. Depending on clinical situation, consider C-reactive protein (CRP), erythrocyte sedimentation rate (ESR), or creatine kinase (CK)

Consider PFT with DLCO + Chest CT / BAL

Consider ECG, troponin, pro-BNP +Echo

Management

ESMO Clinical Practice Guideline

1. Diagnosis and grading of irAEs
2. Ruling out differential diagnoses (consultation specialist, biopsy)
3. Selecting the appropriate immunosuppression strategy for grade 2 events
4. Active evaluation at 72r h to adapt treatment

ASCO Guideline

Grade 1 : ICI is to be continued with close monitoring (Except for some neurological, hematological and cardiac toxicities, such as myocarditis.)

Grade 2 : ICIs are temporarily discontinued + Corticosteroids (0.5–1 mg/kg prednisone or equivalent) can be administered

Grade 3 : ICI suspension + Administration of high-dose corticosteroids (1–2 mg/kg prednisone or methylprednisolone, tapered over 4–6 weeks)

Grade 4 : Permanent discontinuation of ICI is recommended.

For grades 1–3, if symptoms and/or lab values revert to grade 1 or less, an ICI rechallenge can be done

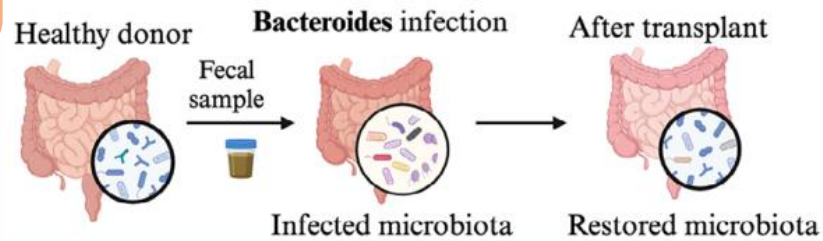
Mechanism-based therapeutic managements

Immune-related adverse events in non-small cell lung cancer: Occurrence, mechanisms and therapeutic strategies

Clin. Transl. Med. 2024;14:e1613.

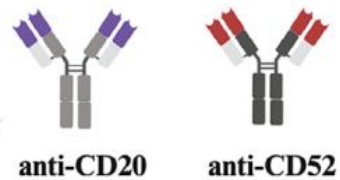
✓ Strategy 1#: Modulation of T cells activity and migration

- Corticosteroids
- Immunosuppressants
- Fecal microbiota transplant and **Perspective**

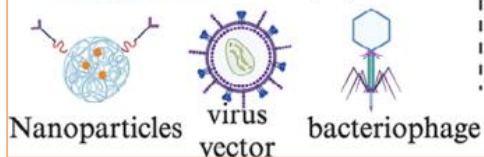


Mycophenolate
Cyclophosphamide

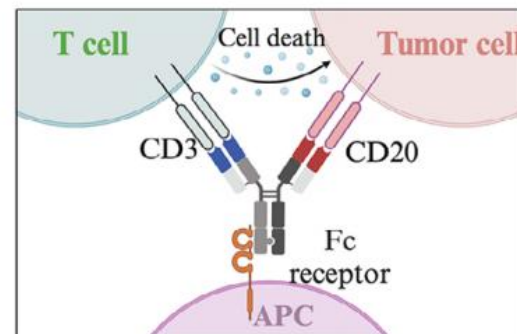
✓ Strategy 2#: Lymphocyte-targeted monoclonal antibodies



Perspective of delivery systems



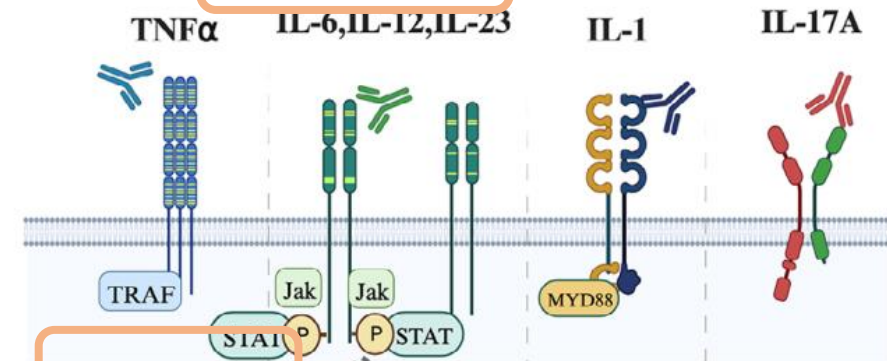
Perspective of Bispecific Antibody



Rituximab

✓ Strategy 3#: Targeting cytokines receptors

Tocilizumab



Infliximab

✓ Strategy 4#: Targeting signaling pathways

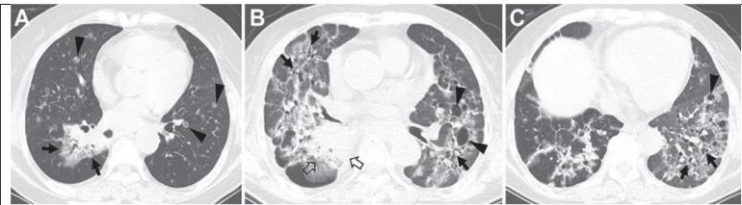
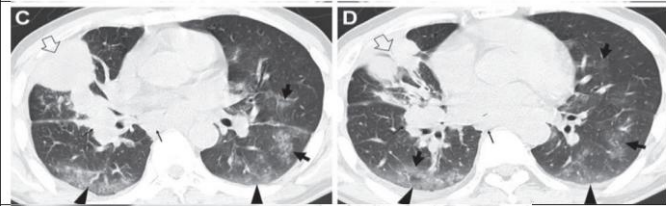
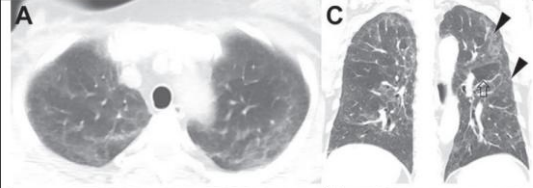
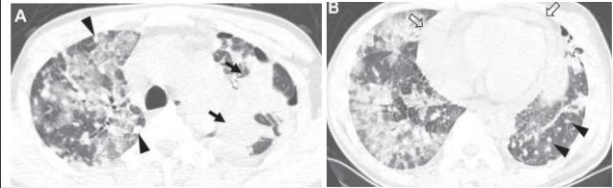
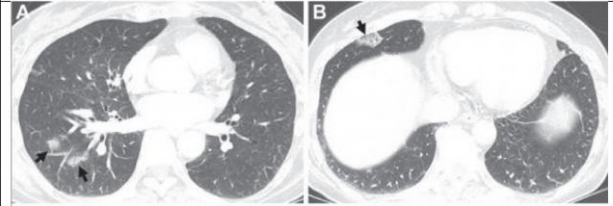
- JAK-STAT pathway
- PI3K pathway
- CDK4/6 pathway
- MNK1/2 pathway

Pneumonitis: No. 1 Fatal Toxicity of PD(L)1 Monotherapy

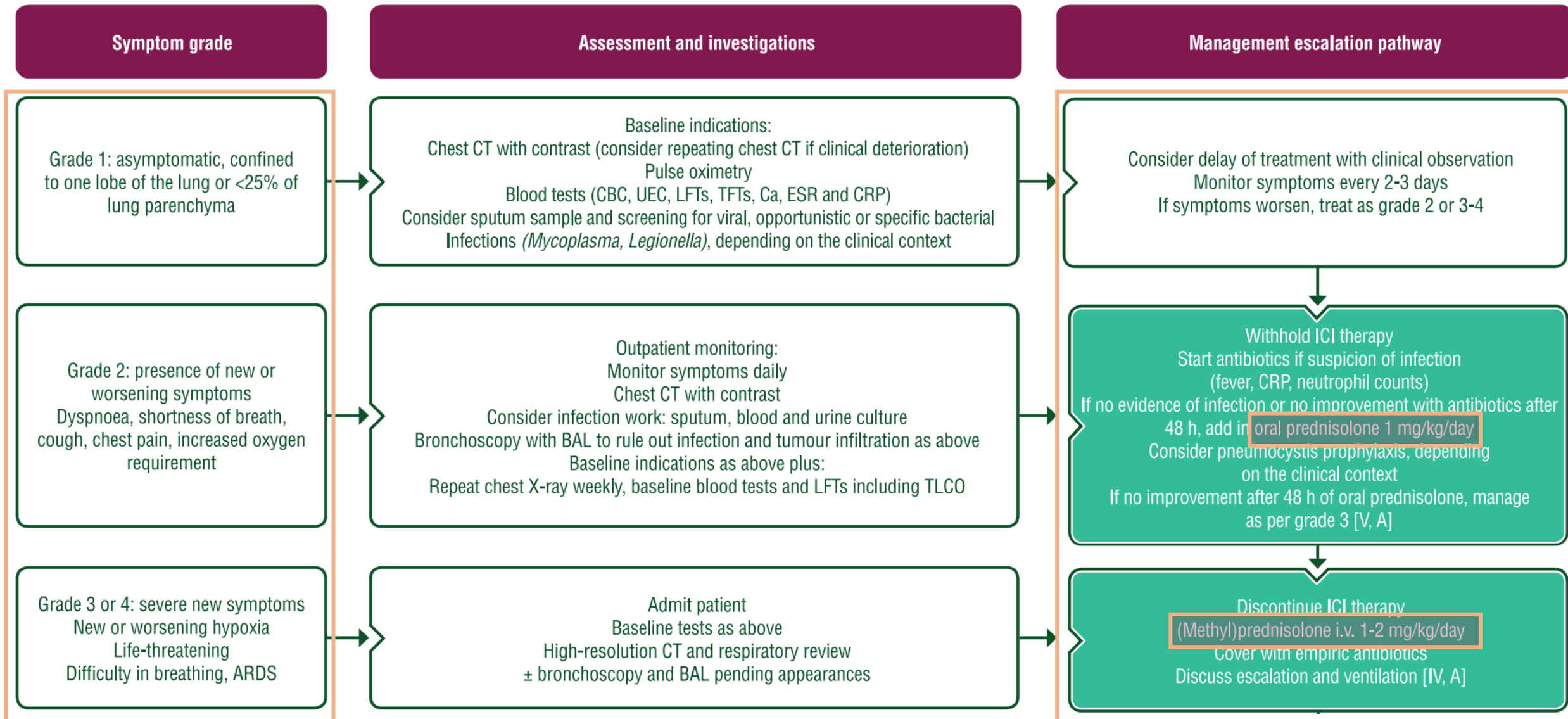
Immune-Related Toxicity in NSCLC: Current State of the Art and Emerging Clinical Challenges

Journal of Thoracic Oncology Vol. 19 No. 3: 395–408.

- Time to Toxicity Onset (Median, Range) : 34 wk (1.5–127 wk)

	Nonspecific interstitial pneumonia (NSIP) Type • Patchy areas of ground glass opacity (GGO) +/- consolidation; • Progression to irregular reticular opacities architectural distortion, and traction bronchiectasis • Bilateral, symmetric; lower-lung involvement
	Organizing Pneumonia Type • Multifocal patchy alveolar opacities • Peribronchovascular +/- peripheral • May demonstrate reversed halo sign
	Hypersensitivity Pneumonia • Small centrilobular nodules; bilateral GGO • Large or lobular areas of decreased attenuation/ vascularity
	Diffuse Alveolar Damage • Extensive GGO & airspace consolidation (exudative phase) • Traction bronchiectasis and decreased lung volumes in organizing and fibrotic phases
	Simple Pulmonary Eosinophilia • Nonsegmental consolidation GGO • Unilateral or bilateral, transient and migratory

ESMO Clinical Practice Guideline : Management of IR-ILD



If not improving or worsening after 48 h

Add tocilizumab 8 mg/kg or infliximab 5 mg/kg ± IVIG
Consider MMF or cyclophosphamide on individual basis
Continue with i.v. CSs; wean as clinically indicated [V, A]

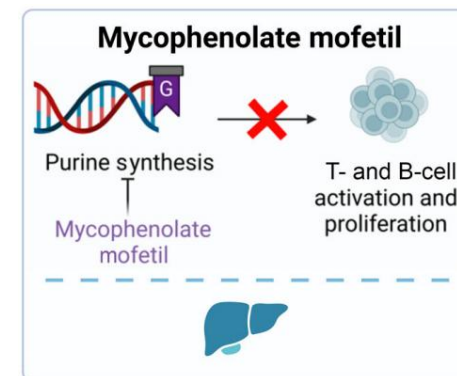
Once improved to baseline:

- Grade 2: wean oral CSs over 4-6 weeks, titrate to symptoms
- Grade 3-4: wean CSs over at least 6-8 weeks

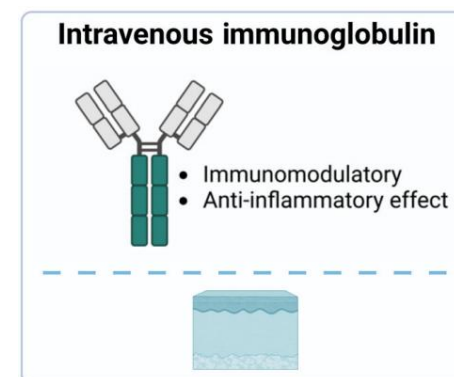
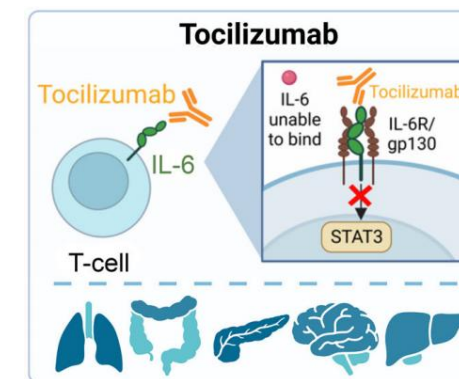
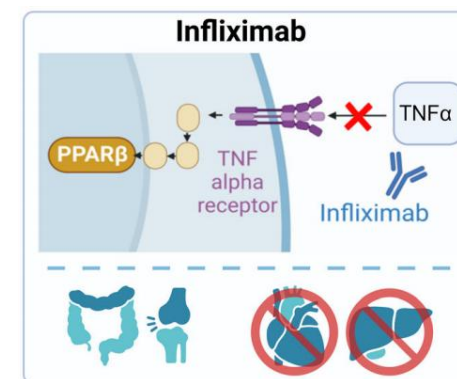
Steroid considerations:

- Calcium and vitamin D supplementation as per local guidelines
- Pneumocystis prophylaxis - cotrimoxazole 480 mg b.i.d. M/W/F or inhaled pentamidine if cotrimoxazole allergy

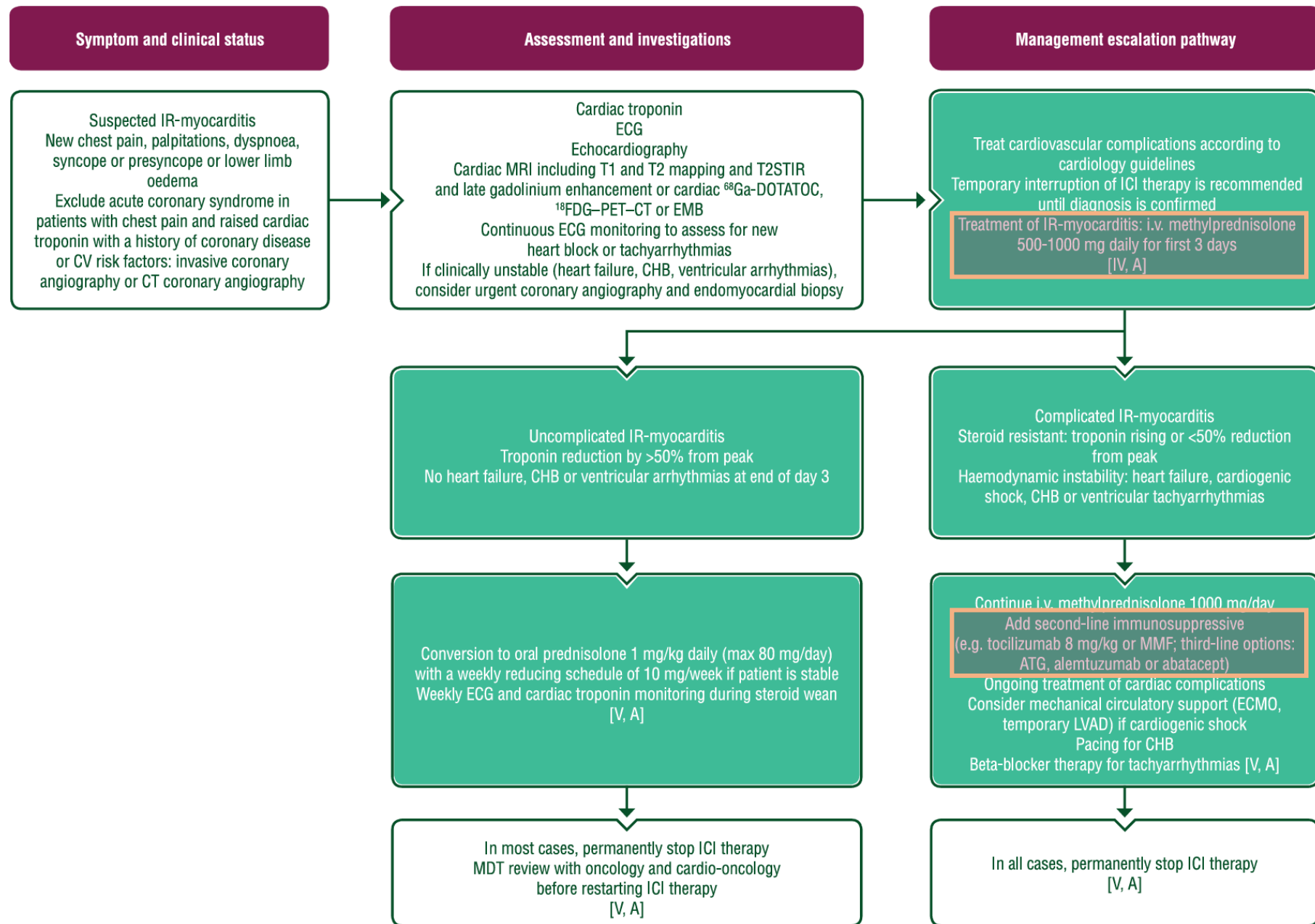
Strategy 1#: Modulation of T cells activity and migration



Strategy 3#: Targeting cytokines receptors



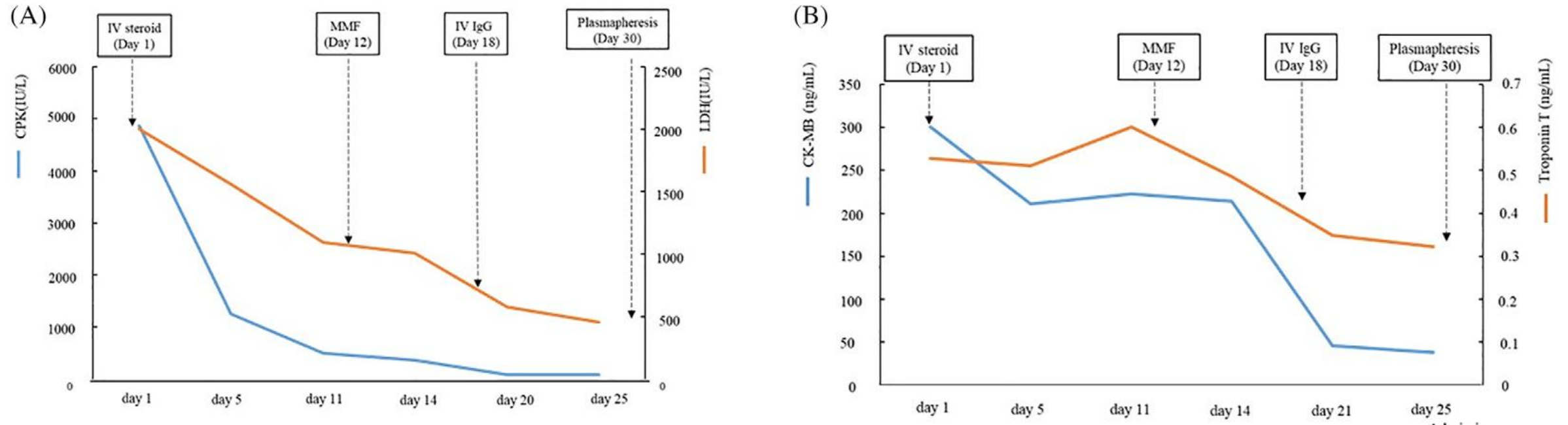
ESMO Clinical Practice Guideline : IR-myocarditis



Case report

Early development of pembrolizumab-induced fulminant myositis and cardiotoxicity in a patient with metastatic thymoma

Respirol Case Rep. 2022 Aug 24;10(9):e01025.



Bispecific T-cell Engager therapy (BiTE) : Tarlatamab

-----Original Message-----

From: "네이버" <mathsooin@naver.com>

To: <choijuwhan@naver.com>;

Cc:

Sent: 2026-06-19 (금) 16:37:49 (GMT+09:00)

Subject: [저는 소세포폐암 환우의 딸이자 이번 탈라타맙 급여화 원청원자입니다.] 교수님의 고견을 여쭙고 싶습니다.

안녕하세요. 최주환교수님.

저는 작년 4월 소세포폐암 확장기 진단을 받은 환우의 딸로,
환자들의 치료 접근성 문제에 깊은 관심을 가지고 있는 허지형이라고 합니다.

이번 탈라타맙 급여화 청원재(정확히는 청원글은 제 동생이 올렸습니다.) 이기도 합니다.
한달동안 본업까지 내팽겨치고 홍보에 열을 올렸고, 5만명 이상의 동의를 이끌어 내는 과정에 앞장서 있었습니다.
이후 해당 사안이 언론을 통해 보도되며 환자와 보호자들의 관심과 기대 또한 크게 높아진 상황입니다.

청원을 홍보하며 교수님의 인터뷰 기사등을 접하게 되어 염치 무릅쓰고 연락드렸습니다.
(최주환 고려대 구로병원 교수 "기존 약제보다 치료적 우월성" 평가... 급여 등 환자 접근성은 과제)

교수님께서도 잘 아시겠지만, 임델트라가 높은 비용으로 인해 현실적으로 치료 접근이 매우 제한적인 상황이며,
이로 인해 치료 기회를 충분히 갖지 못하는 환자들도 적지 않습니다.
그럼에도 불구하고, 대안이 없는 소세포폐암 환자들에겐 이 비싼 약조차 얼마나 큰 희망인지도 알게 되었습니다.

저희 아버지 역시 1,2차 치료에 모두 내성이 생긴 이후 올해 4월부터 임델트라 치료를 받고 계십니다.
저희 또한 경제적인 부담을 크게 느끼고 있는 상황입니다.

탈라타맙 급여화 청원 성공을 위해 몇몇이 모여 열심히 홍보하였고
그분들이 이제 급여화가 될때까지 힘을 함께 해주시기로 했습니다.

“기적 같은 약인데 비급여”…소세포폐암 환자들 '탈라타맙' 급여 청원

청년의사 김은영 기자 | ○ 입력 2026.05.09 06:05 | 댓글 0



가

신약 접근성 높이는 제도 개선 필요 요구
1회 투여비용 5000만원…"감당하기 어려워"
급여 전 선별급여·위험분담제 적용이라도



| 공개 전 청원

소세포폐암 3차 치료제 탈라타맙(tarlatamab) 건강보험 급여 적용 요청에 관한 청원



청원서 등록



동의진행 중



동의종료

찬성기간

2026-05-06 ~ 2026-05-06
(청원서 등록 이후 30일 이내)

찬성수

100명

100%

청원인

하**



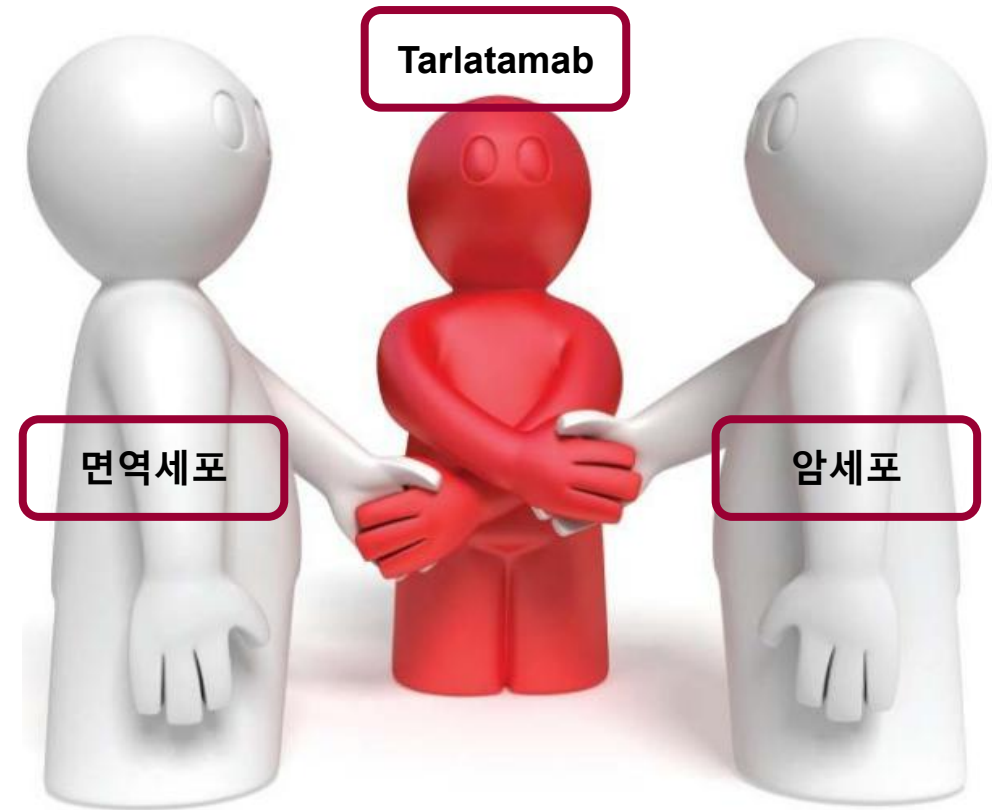
오늘의 헤드라인



Bispecific T-cell Engager therapy (BiTE) : Tarlatamab



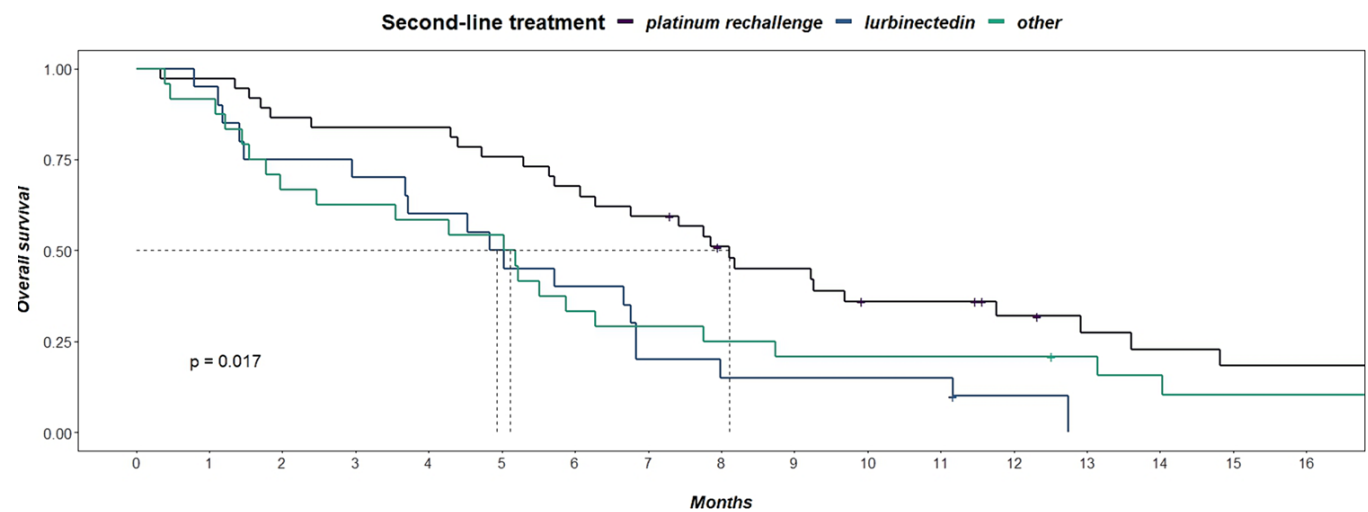
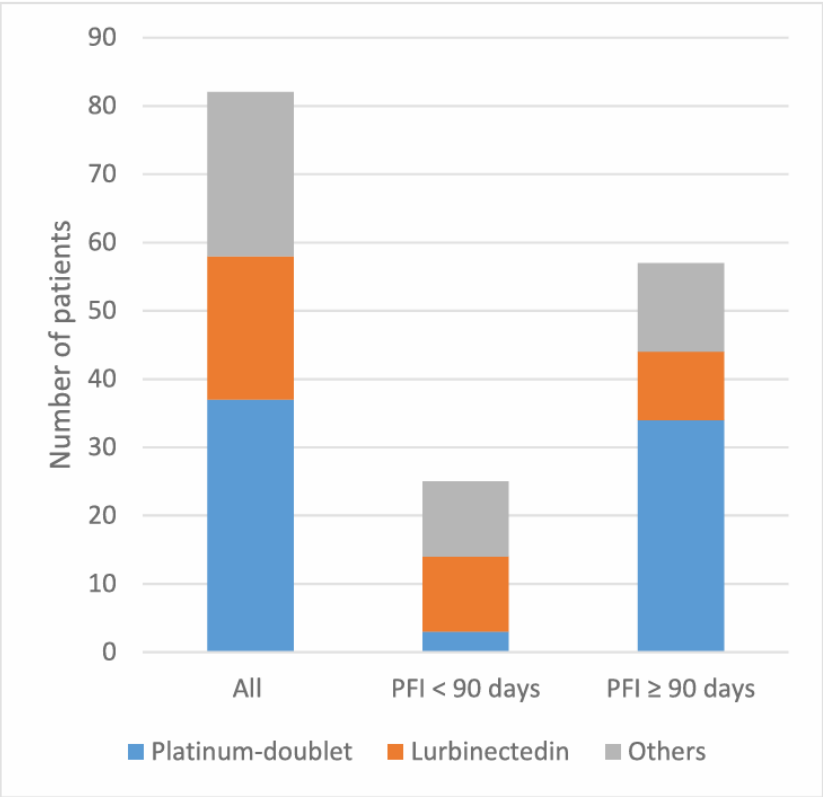
- Cytokine Release Syndrome (CRS)
: Fever, Hypotension, and Hypoxia
- Immune effector cell–associated neurotoxicity syndrome (ICANS) : Mental change



Second-line treatment outcomes in SCLC

Second-line treatment outcomes after first-line chemotherapy plus immunotherapy in Extensive-Stage small cell lung cancer (ES-SCLC) patients: A large French multicenter study

Lung Cancer 194 (2024) 107887



Overall survival and 2L-Progression free survival Based on a 75-Day PFI Cut-off.

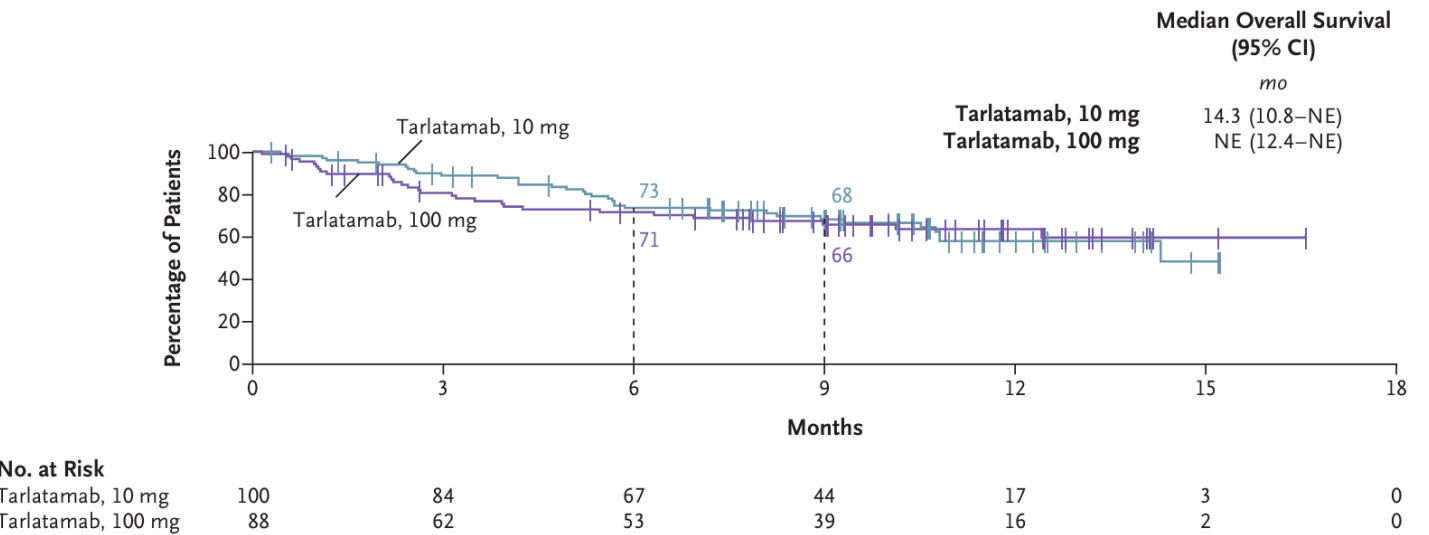
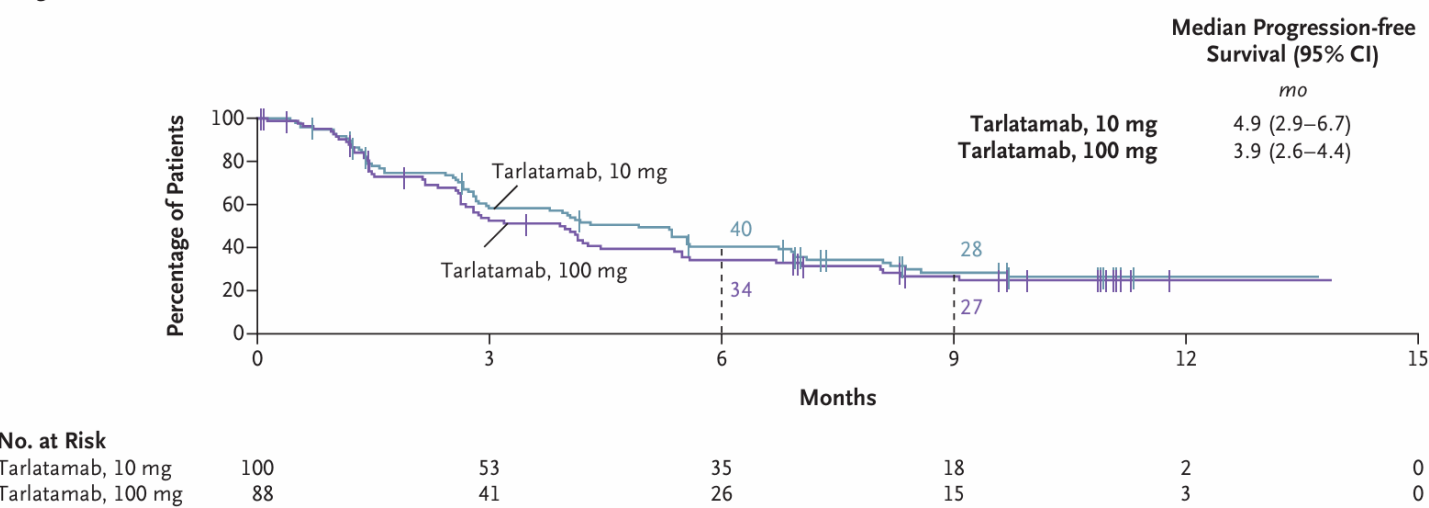
Overall survival	Median (months)	95 % CI	2L-Progression Free Survival	Median (months)	95 % CI
Study sample	6.1	5.2 – 7.8	Study sample	3.4	2.8 – 4.5
< 75 days	2.2	1.2 – 8.0	< 75 days	1.4	1.1 – 4.7
≥ 75 days	6.8	5.5 – 8.7	≥ 75 days	3.8	2.9 – 4.7

Supplementary table 1: Overall survival and 2L-Progression free survival Based on a 75-Day PFI Cut-off.

Tarlatamab for Patients with Previously Treated Small-Cell Lung Cancer

N Engl J Med 2023;389:2063-75

Progression-free Survival



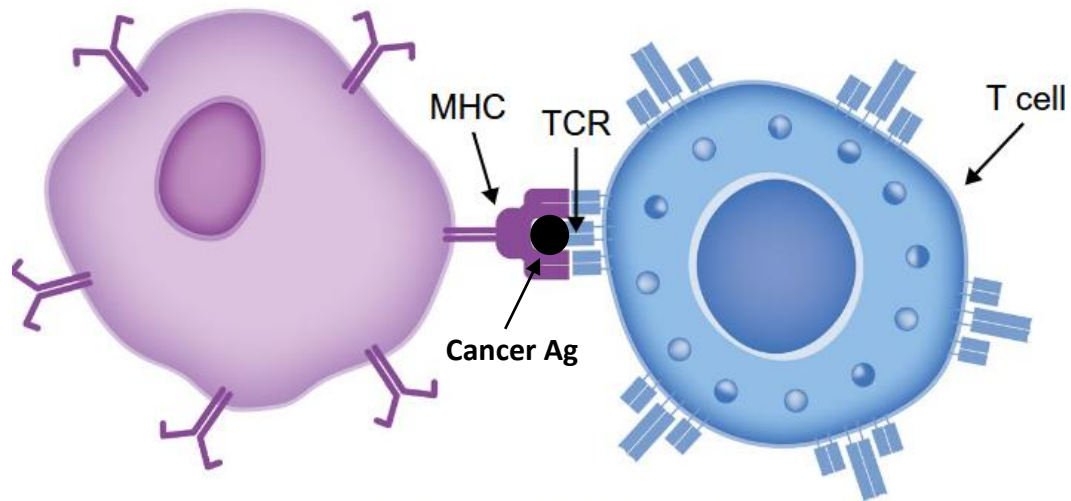
The mechanism of action for bispecific T-cell engager (BiTE)

The BiTE (Bispecific T-Cell Engager) Platform: Development and Future Potential of a Targeted Immuno-Oncology Therapy Across Tumor Types

Cancer 2020;126:3192-3201

Step 1 : TCR-MHC, Recognition

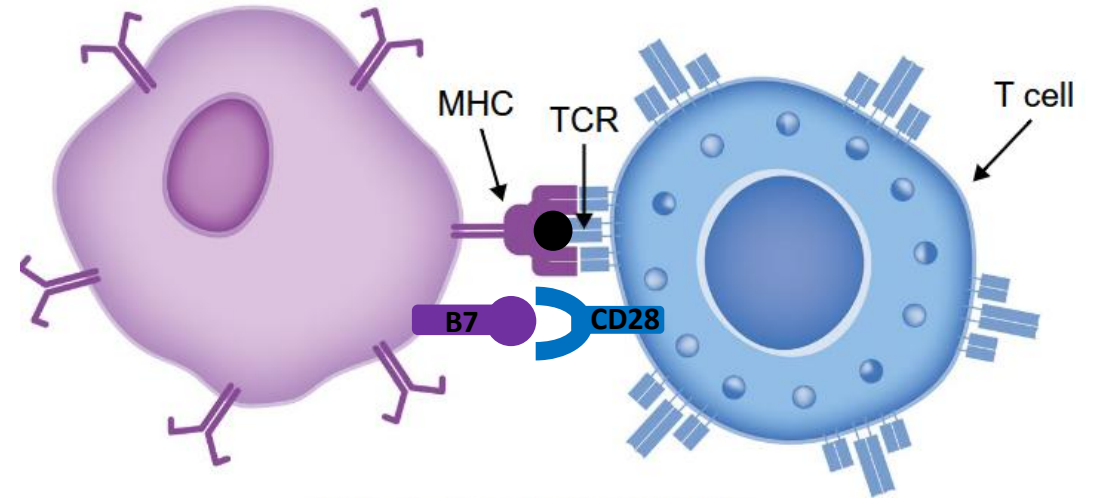
Normal Immune
Recognition Systems



Antigen presentation by MHC
and recognition by TCR

Step 2 : CD28-B7, Activation/Expansion

Normal Immune
Recognition Systems



Antigen presentation by MHC
and recognition by TCR

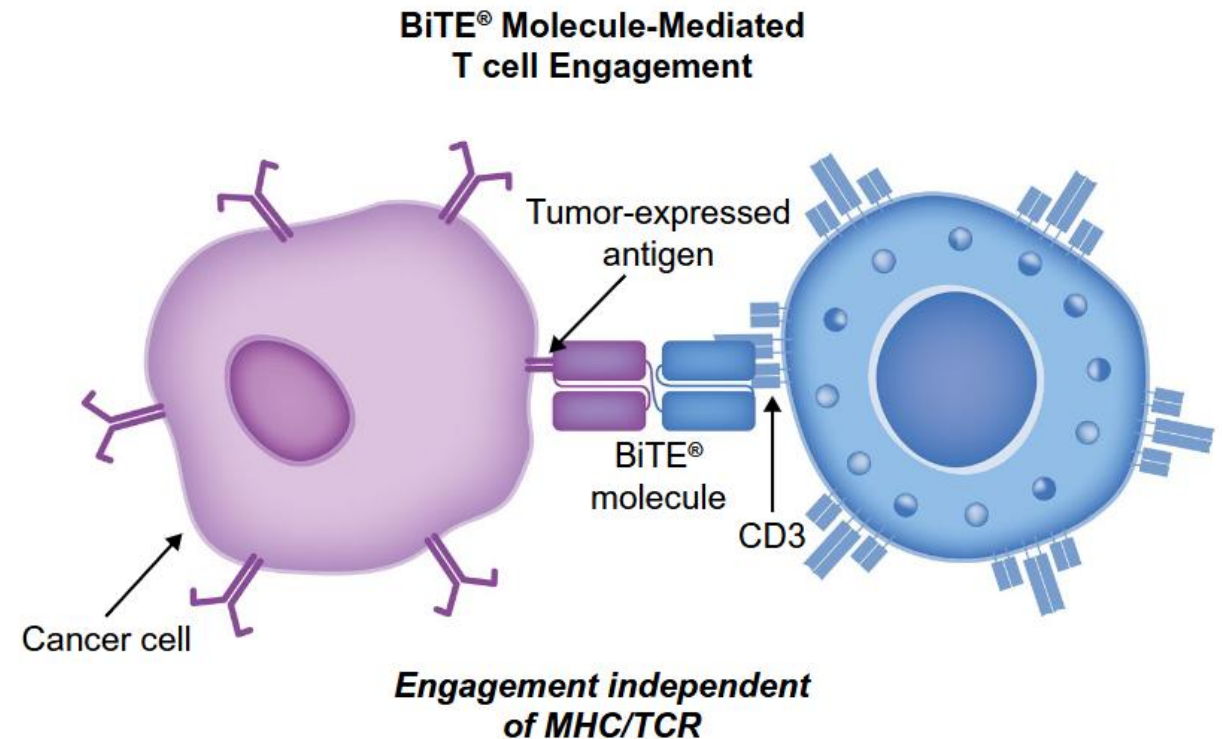
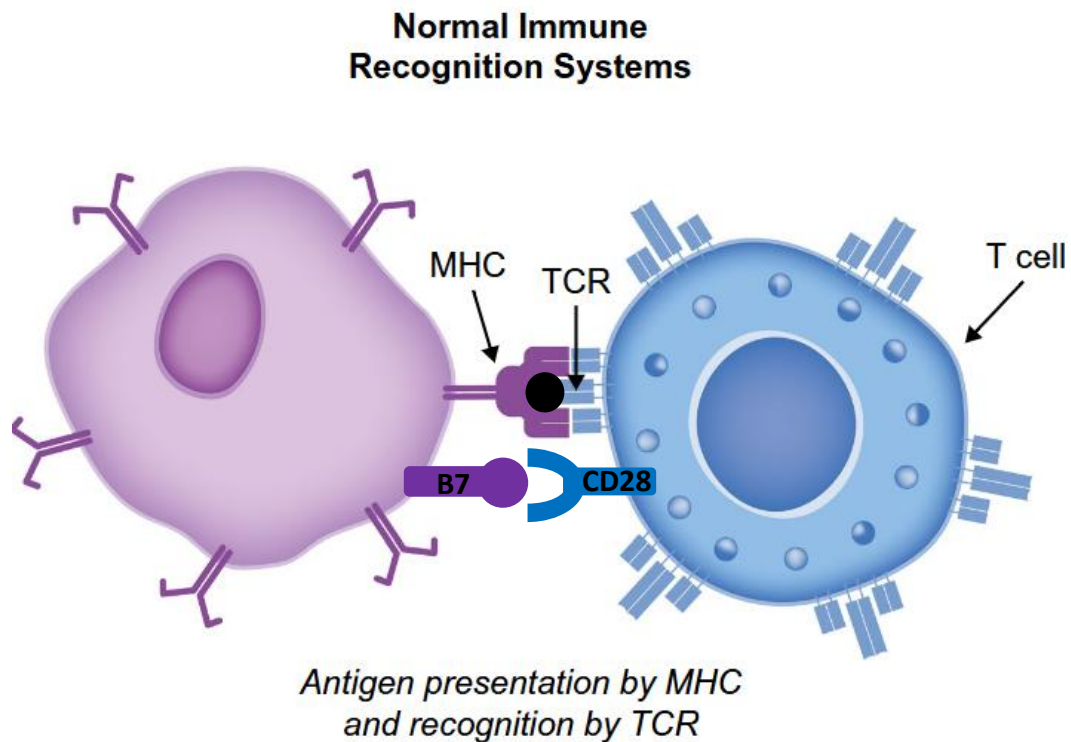
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Cancer 2020;126:3192-3201

Step 2 : CD28-B7, Activation/Expansion

BiTE

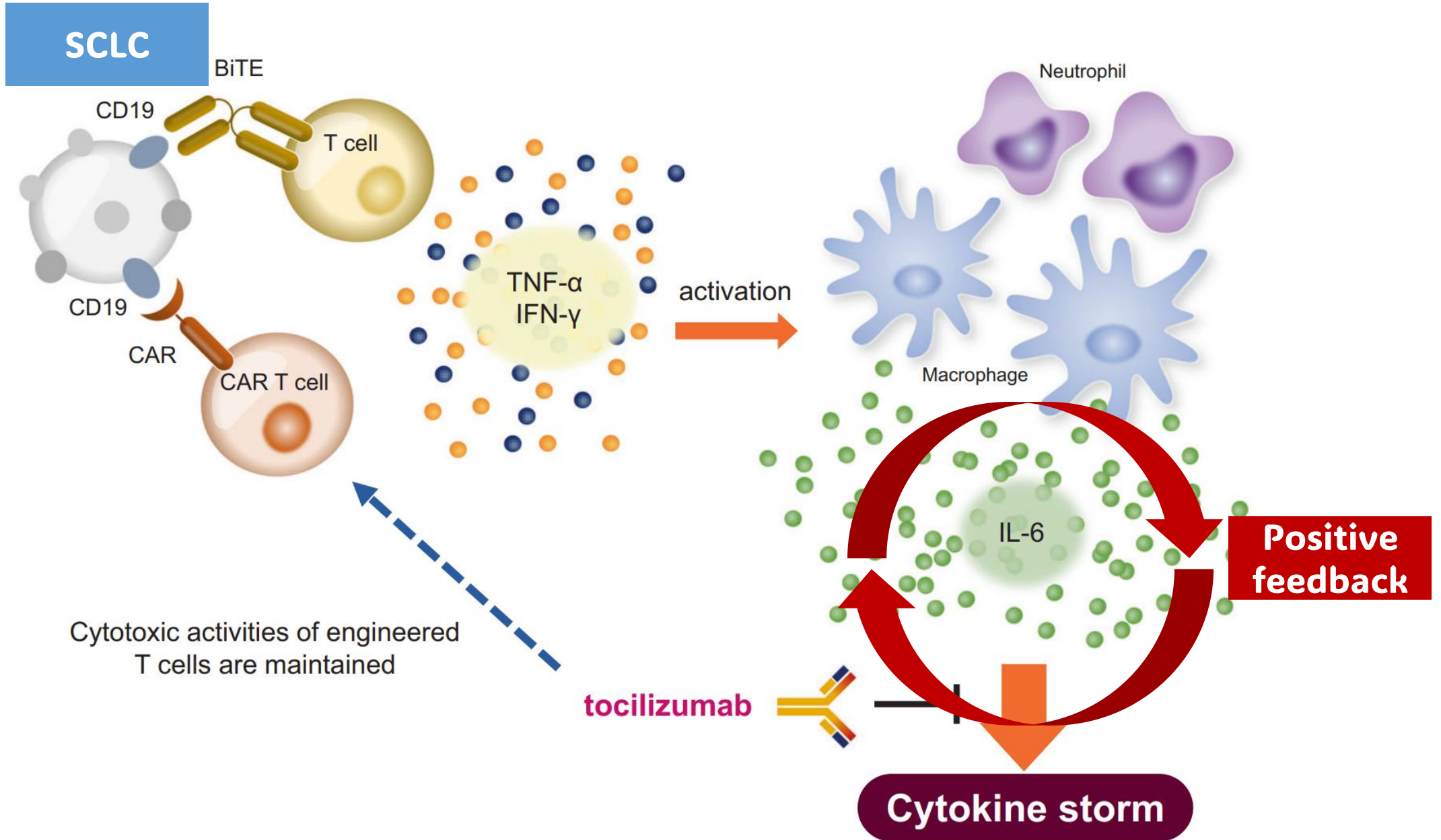


Normal immune system



BiTE





- **Common symptoms: fever, hypotension, and hypoxia**
- **Timing**
 - **Median Onset: 13 hours (IQR: 8-27 hours)**
 - **Median Duration: 4 days**
 - **Resolution in 98% of cases**

CRS, n (%)	Parts 1-3 Tarlatamab 10 mg (n = 133)	Part 1 Tarlatamab 100 mg (n = 87)
All Grades	68 (51)	53 (61)
Grade 1	40 (30)	28 (32)
Grade 2	27 (20)	20 (23)
Grade 3	1 (1)	5 (6)

CRS was predominately grade 1 or 2 in severity

Management per protocol

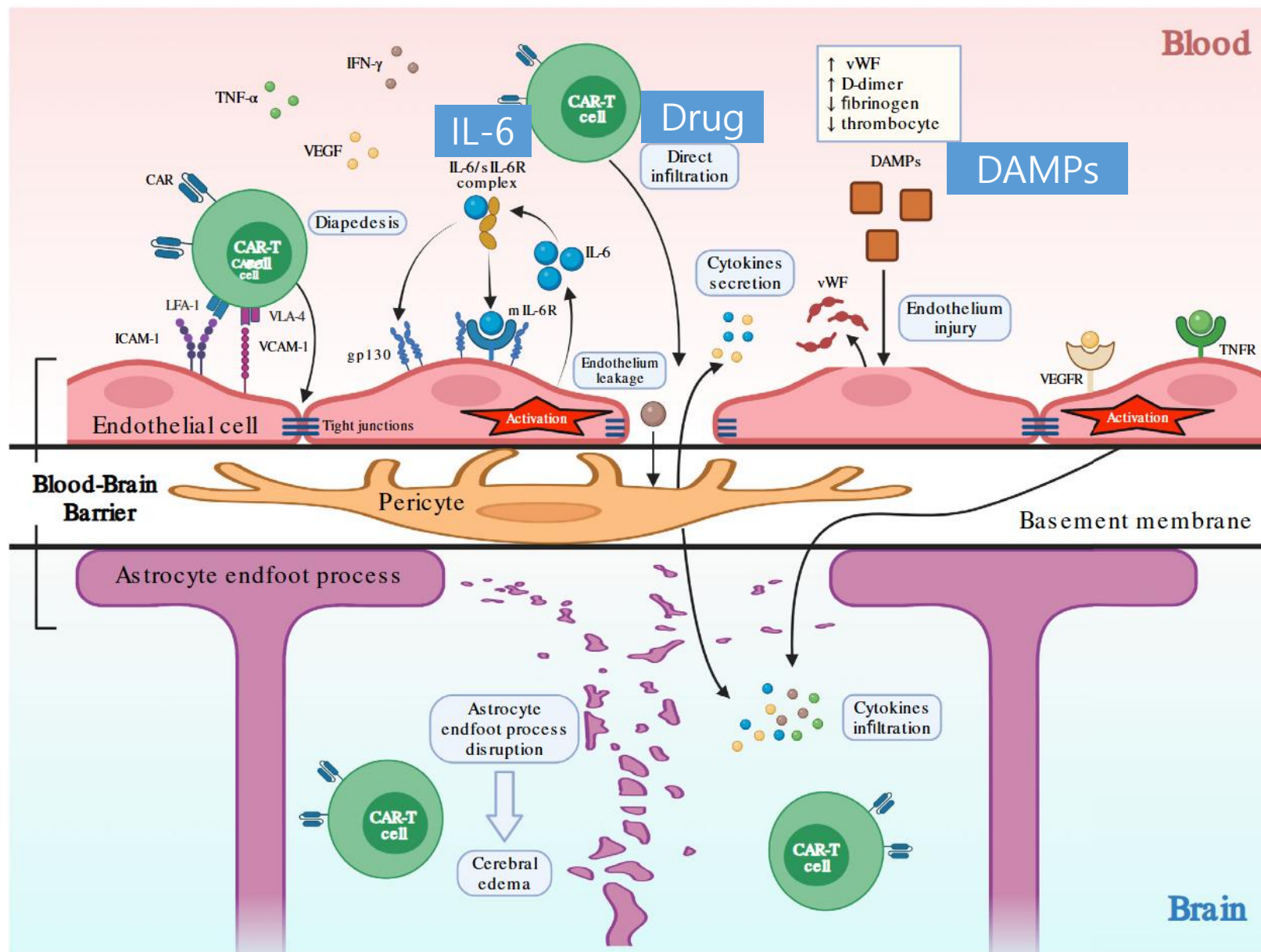
- Supportive care such as acetaminophen, IV hydration, and glucocorticoids

Additional interventions for CRS, n (%)	Parts 1 + 2 Tarlatamab 10 mg (n = 99)	Part 1 Tarlatamab 100 mg (n = 87)	Part 3 Tarlatamab 10 mg (n = 34)
Tocilizumab	5 (5)	9 (10)	2 (6)
IV fluid	8 (8)	8 (9)	1 (3)
Supplemental oxygen	7 (7)	8 (9)	4 (12)
Vasopressor support	1 (1)	1 (1)	0

CRS was generally managed with supportive care; additional interventions were infrequently utilized

	1등급 (대증치료만 필요)	2등급 (중등도 중재가 필요)	3등급 (중증 증상)	4등급 (생명을 위협하는 증상)
체온 	☐ $\geq 38^{\circ}\text{C}$ 이상	☐ $\geq 38^{\circ}\text{C}$ 이상	☐ $\geq 38^{\circ}\text{C}$ 이상	☐ $\geq 38^{\circ}\text{C}$ 이상
	AND	AND	AND	AND
저혈압 	☐ 동반하지 않음	☐ 수액에 반응, 혈압상승제가 불필요한 저혈압	☐ 바소프레신과 함께 혹은 단독으로 한 가지의 혈압상승제가 필요한 혈역학적 불안정	☐ 다수의 혈압상승제 (바소프레신 제외)가 필요한 혈역학적 불안정
	AND	AND/OR	OR	AND
저산소증 	☐ 동반하지 않음	☐ 저유량 비강 캐놀라 ^d 또는 블로바이(blow-by) 로 산소공급이 필요한 저산소증	☐ 고유량 비강 캐놀라 ^d 또는 안면 마스크, 비재호흡마스크 또는 벤츄리마스크를 통한 산소 공급이 필요한 저산소증 또는 호흡곤란	☐ 양압의 산소 공급에도 불구하고 저산소증 또는 호흡곤란의 악화

	1등급 (대증치료만 필요)	2등급 (중등도 중재가 필요)	3등급 (중증 증상)	4등급 (생명을 위협하는 증상)
투여 조절 	• 투여 보류 • 증상 해소 후 다음 예정 용량으로 재개^b	• 투여 보류 • 증상 해소 후 다음 예정 용량으로 재개^b	• 투여 보류 • 증상 해소 후 다음 예정 용량으로 재개^b • 3등급 CRS 재발 시 영구 중단	• 임델트라® 영구 중단
관리 	• 대증요법 (예: 아세트아미노펜) 투여	• 최소 24시간 동안 입원 및 심장원격측정기 및 맥박산소측정기 사용 • 대증요법 (예: 아세트아미노펜) 투여 • 필요한 경우 보조산소 (요법) 및 정맥 수액 투여 • 덱사메타손^c(또는 이와 동등한 약물) 8 mg 정맥 주입 고려 • 토실리주맙(또는 이와 동등한 약물) 고려	2등급 치료에 더하여: • 집중 모니터링 (예: ICU) 권장 • 덱사메타손^c(또는 이와 동등한 약물) 8 mg 8시간마다 최대 3회까지 정맥 투여 • 필요에 따라 혈압상승제 지지(요법) • 필요에 따라 고유량 산소 지지^d • 토실리주맙(또는 이와 동등한 약물) 권장 • 다음 투여 전, 제1주기에 권장되는 병용 약물 투여	• ICU 치료 • 3등급 치료에 따름 • 토실리주맙(또는 이와 동등한 약물) 권장



Tarlatamab, is also expected to have limited BBB penetration under normal conditions.

ICANS Symptoms

- Confusion, impaired attention, tremor, and motor findings, weakness, or both

Timing

- Median Onset: 5 days
- Median Duration: 6.5 days

Management per protocol

- Follow institutional guidelines
- All grades: supportive care
- $\geq$ Grade 2: glucocorticoid therapy
- Grade 4: high-dose glucocorticoid treatment

AEs of interest, n (%)	Parts 1 + 2 Tarlataamab 10 mg (n = 99)	Part 1 Tarlataamab 10 0 mg (n = 87)	Part 3 Tarlataamab 10 mg (n = 34)
ICANS and associated neurologic events			
Overall	7 (7)	24 (28)	4 (12)
Grade $\geq$ 3 severity	0	4 (5)	0
Serious	2 (2)	11 (13)	2 (6)
Leading to tarlatamab discontinuation	1 (1)	1 (1)	0
Fatal	0	0	0

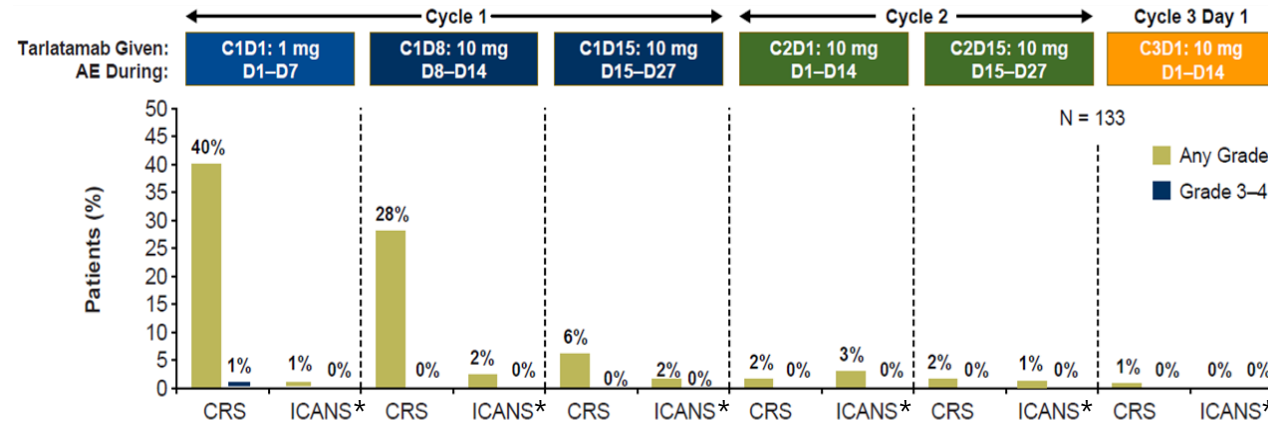
등급 ^a	1등급	2등급	3등급	4등급
ICE 점수	7-9	3-6	0-2	0
의식 수준 저하 	☐ 의식 수준 저하 없음	☐ 음성을 들으면 깨어나는 경증 기면	☐ 촉각 자극에만 깨어나는 의식 수준	☐ 혼미 또는 혼수
경련 발작 	☐ 없음	☐ 없음	☐ 빠르게 해소되는 국소 또는 전신성 임상 발작 또는 ☐ 중재를 통해 해소되는 뇌파검사(EEG) 상의 비경련성발작	☐ 생명을 위협하는 지속 발작(>5분) 또는 ☐ 발작 간 기저 상태로의 회복이 없는 반복적인 임상적 또는 전기적 발작
뇌부종 	☐ 없음	☐ 없음	☐ 신경영상상의 초점 또는 국소/국지적 부종	☐ 신경영상 상의 미만성 뇌부종 ☐ 제뇌 또는 피질제거 자세 또는 ☐ 시신경 유두부종 ☐ 6번뇌신경마비 또는 쿠싱 세징후(Cushing's triad).

ICE 평가 항목 ¹			
항목	점수	항목	점수
☐ 지남력: 연도, 월, 도시, 병원 기억	4	☐ 쓰기: 표준 문장을 쓰기	1
☐ 명명하기: 3개 사물에 이름을 짓기	3	☐ 주의력: 100부터 10까지 거꾸로 세기	1
☐ 지시 따르기: 간단한 지시에 따르기	1	☐ 의식이 없음	0

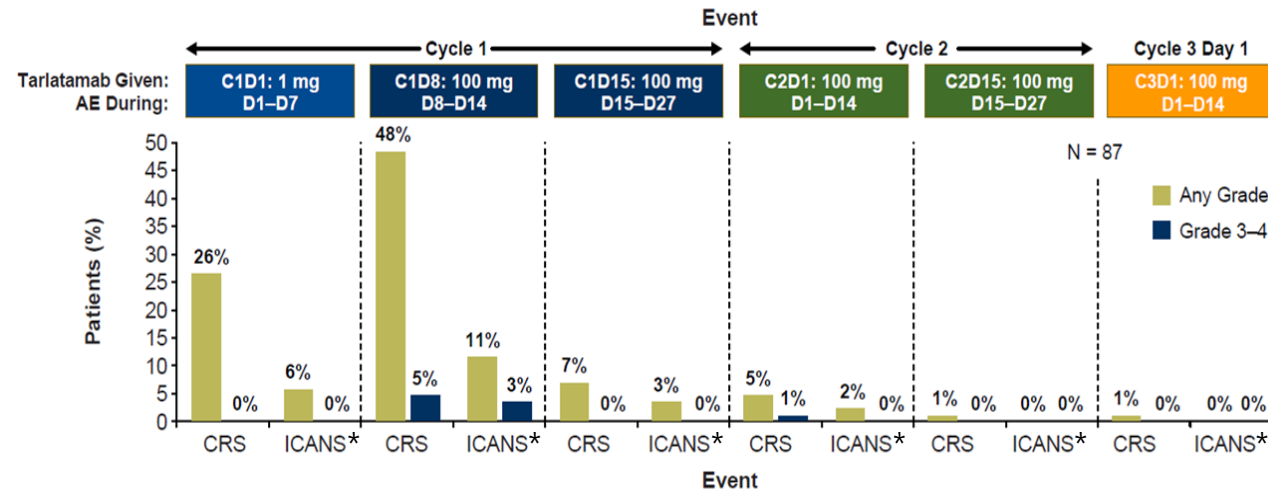
등급 ^a	1등급	2등급	3등급	4등급
투여 조절 	• 투여 보류 • ICANS 해소 후 다음 예정 용량으로 재개^b	• 투여 보류 • ICANS 해소 후 다음 예정 용량으로 재개^b	• ICANS가 해소될 때까지 임델트라[®] 투여를 보류한 후, 다음 예정된 용량으로 임델트라[®] 재개^b • 7일 이내에 1등급 이하로 개선되지 않거나 재투여 후 7일 이내에 3등급 독성이 재발하는 경우, 임델트라[®] 영구 중단. • 3등급 사례가 재발하는 경우, 임델트라[®] 영구 중단.	• 임델트라[®] 영구 중단
관리 	• 보조요법	• 보조요법 • 덱사메타손^c (또는 이와 동등한 약물) 10 mg 정맥주입. 증상이 악화될 경우, 6시간마다 덱사메타손 10 mg 정맥주입을 반복하거나 12시간마다 메틸프레드니솔론 1 mg/kg 정맥주입을 반복할 수 있음 • 신경학적 증상을 모니터링하고 추가 평가 및 관리를 위해 신경과 전문의 및 기타 전문가와의 협진 고려	• 집중 모니터링(예: ICU 치료) 권장 • 기도 보호를 위해 기계적 환기 고려. 6시간마다 덱사메타손^c (또는 이와 동등한 약물) 10 mg 정맥주입 또는 12시간마다 메틸프레드니솔론 1 mg/kg 정맥주입 • 대상환자에게 3등급 이상의 신경독성이 지속되는 경우 2~3일마다 신경영상(CT 또는 MRI)의 반복 촬영 고려	• ICU 치료 • 기도 보호를 위해 기계적 환기 고려 • 고용량 코르티코스테로이드^c • 대상 환자에게 3등급 이상의 신경독성이 지속되는 경우 2~3일마다 신경영상(CT 또는 MRI)의 반복 촬영 고려 • 기관의 지침에 따라 경련성 뇌전증지속상태 치료

Timing of CRS and ICANS and associated neurologic events

10 mg
Tarlatamab



100 mg
Tarlatamab



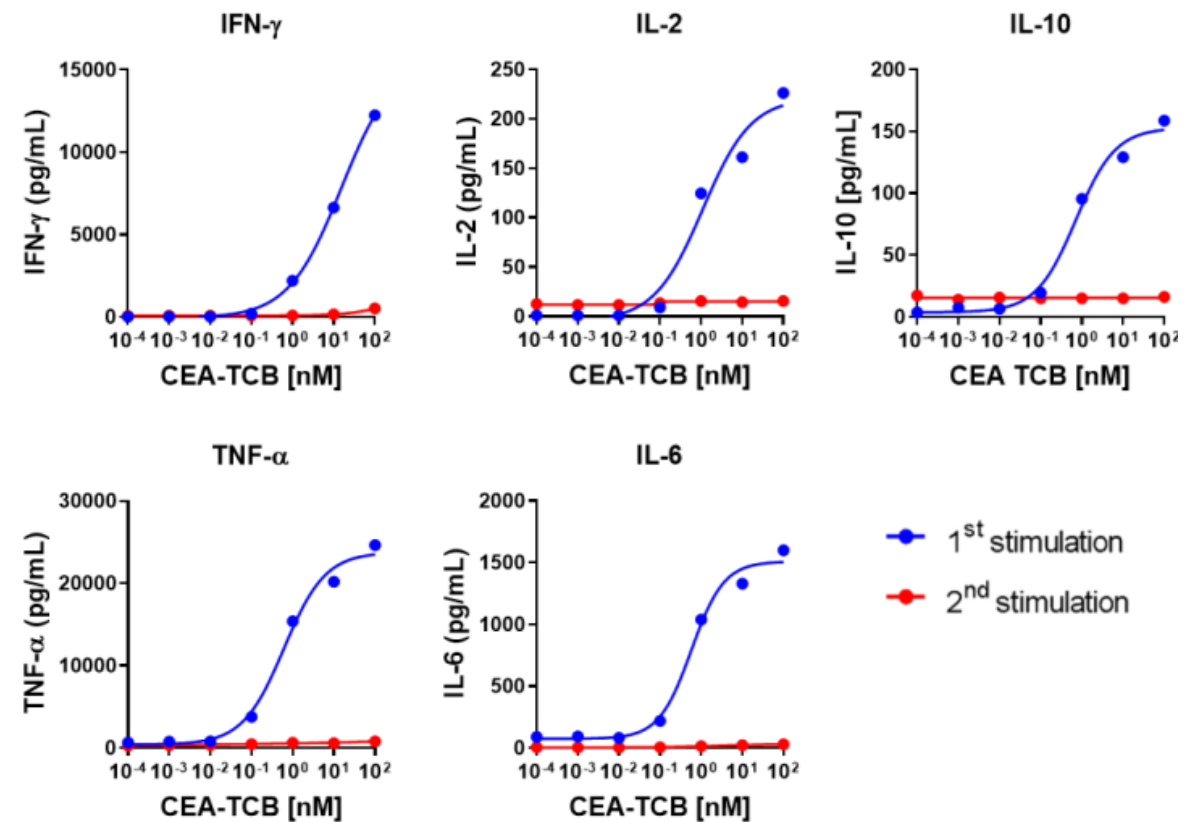
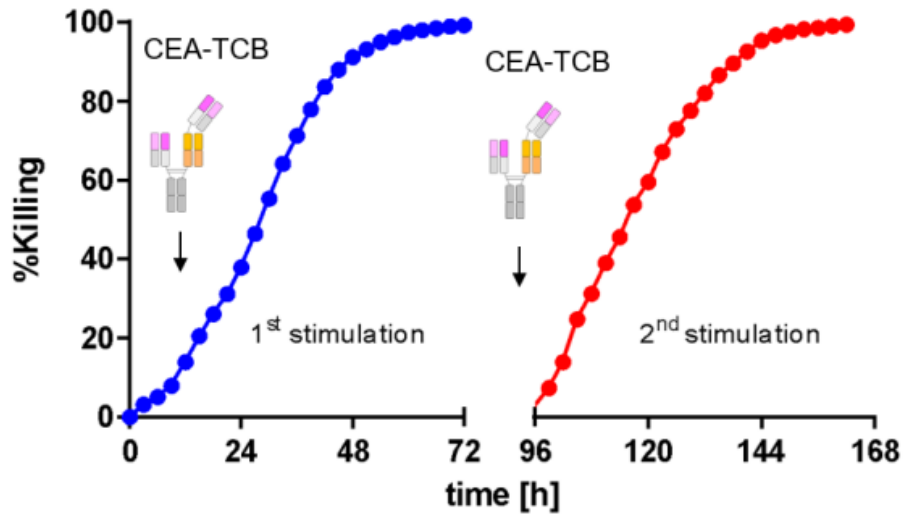
- CRS was largely confined to the first or second dose
- ICANS occurred infrequently overall and was predominantly observed with tarlatamab 100 mg

The mechanism of CRS

Dissecting the mechanism of cytokine release induced by T-cell engagers highlights the contribution of neutrophils

ONCOIMMUNOLOGY 2022, VOL. 11, NO. 1, e2039432

- An in vitro co-culture assay of human PBMCs or total leukocytes



Tarlatamab in Relapsed Small Cell Lung Cancer: Safety Signals of CRS and ICANS and Exploratory Laboratory Findings

STUDY POPULATION & DESIGN



Relapsed extensive-stage SCLC previously treated with ≥ 1 line of therapy



n = 11 patients



TARLATAMAB

DLL3-targeted bispecific T-cell engager

Expanded access program (Oct 2024 – May 2026)



Retrospective analysis of efficacy, safety, and laboratory findings associated with CRS

SAFETY

CYTOKINE RELEASE SYNDROME (CRS)



7/11 patients (63.6%)
10 events
All grade 1–2
Occurred on C1D1 or C1D8
No tocilizumab, ICU care, dose reduction, or treatment discontinuation

IMMUNE EFFECTOR CELL-ASSOCIATED NEUROTOXICITY SYNDROME (ICANS)



1/11 patients (9.1%)
Grade 3
Fully recovered
No other ICANS events

EXPLORATORY LABORATORY FINDINGS DURING CRS EVENTS

Neutrophil %



↑ Higher during CRS vs. non-CRS events

Lymphocyte %



↓ Lower during CRS vs. non-CRS events

Neutrophil-to-Lymphocyte Ratio (NLR)



↑ Higher during CRS vs. non-CRS events

Findings are exploratory and may reflect non-specific hematologic stress responses.

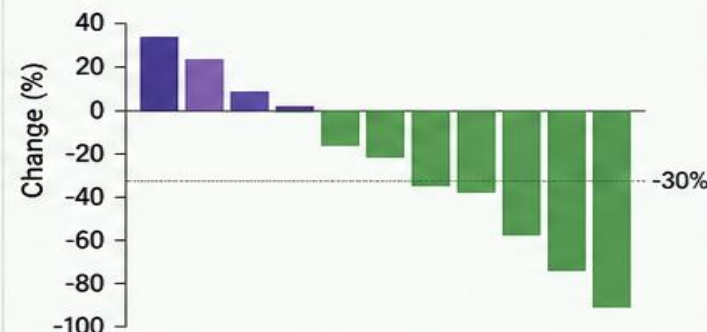
EFFICACY OUTCOMES



ORR
54.5%

DCR
72.7%

BEST TUMOR SIZE CHANGE FROM BASELINE



MEDIAN PFS



3.8 months

(95% CI: 1.9–NR)

MEDIAN OS



10.1 months

(95% CI: 4.5–NR)



Tarlatamab shows encouraging antitumor activity and manageable toxicity in heavily pretreated SCLC patients.



NLR may represent an exploratory, concurrent hematologic correlate of CRS.

Patients 1 : M76, COPD, 4th Line, SD – Day 1 : 1mg, CRS (+) , 8.8days

Immune effector cell–associated neurotoxicity syndrome (10%)

The patient developed grade 2 CRS on day 1 without any neurological symptoms.

However, on day 8, in the absence of CRS, the patient presented with symptoms consistent with grade 3 ICANS.

환자분 교수님 회진돌고 가신 상황에 대해서 기억하지 못하고, 보호자(처)분이 묻는 질문에 멍하니 대답하지 않고 왜 그런걸 묻냐고 동문서답하심.
물어보는 질문에 대해 반응 느리고, 쳐다보기만 하심.

"아침 먹었는지 잘 모르겠어요. 어제 보호자 왔는지도 기억이 안 나요." by PT

"점심...아니 기억나...점심...먹었지... 보호자...? 어... .. 아니 딸이 왔지 아까..."by pt
점심 즈음 따님과 함께 식사 하셨으나 상기하는데 오래 걸리심.

담당간호사 정규라운딩 시행함

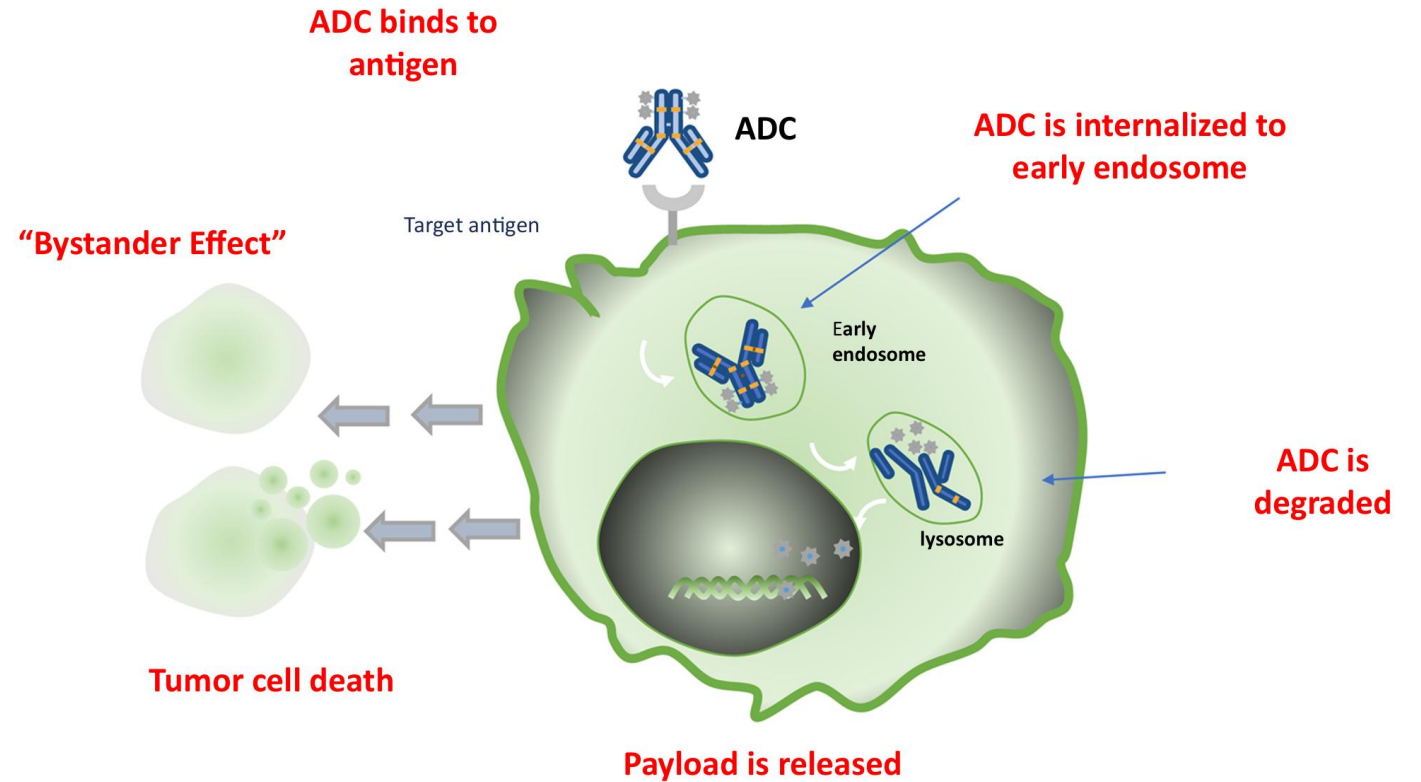
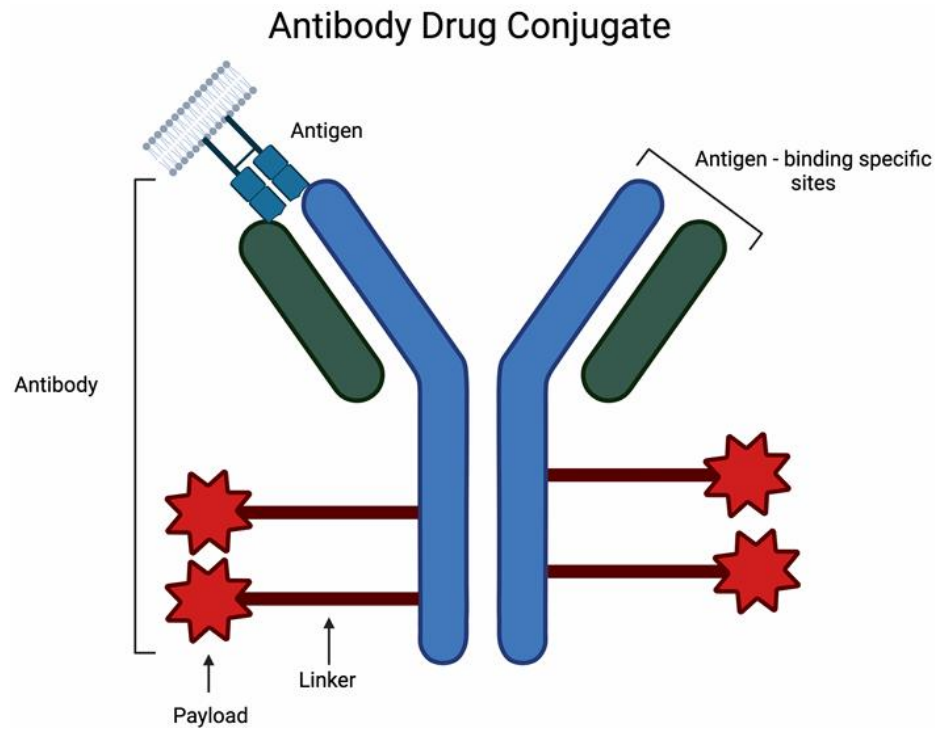
S : 면회..? 누가 왔었지? 뭐 와이프 왔다갔겠지 by PT Duty(Evening)

Antibody–drug conjugates (ADCs)

Antibody-drug conjugates

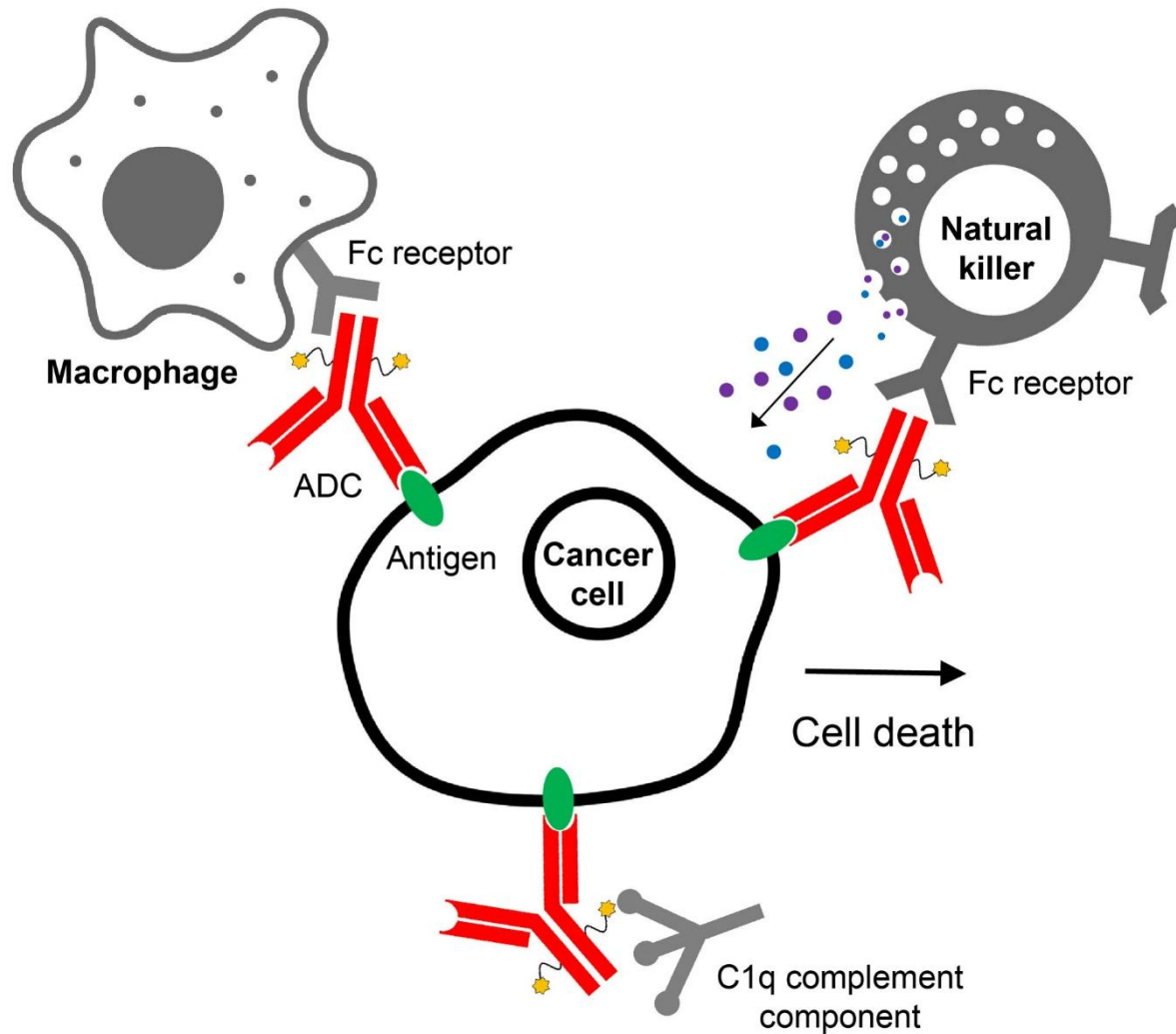
Antibody-drug conjugates in lung cancer: dawn of a new era?

Precision Oncology (2023) 7:5

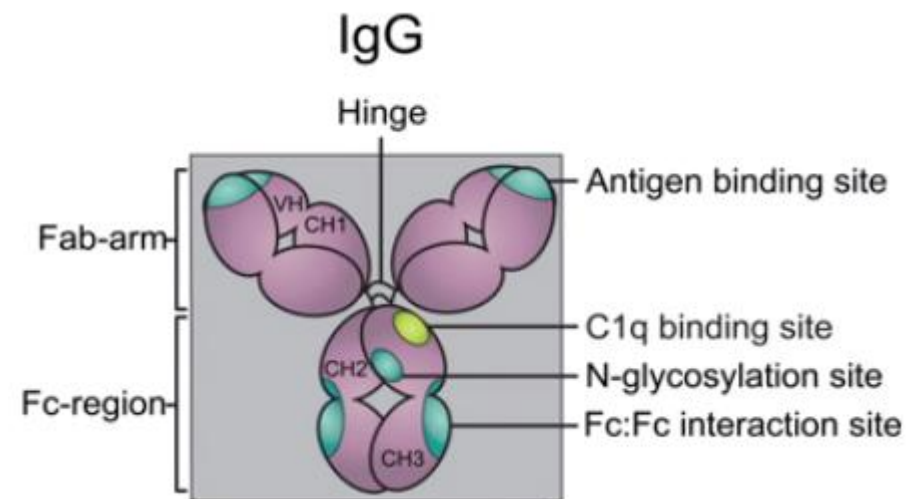


Antibody-Dependent Cell-Phagocytosis (ADCP)

Antibody-Dependent Cell-mediated Cytotoxicity (ADCC)



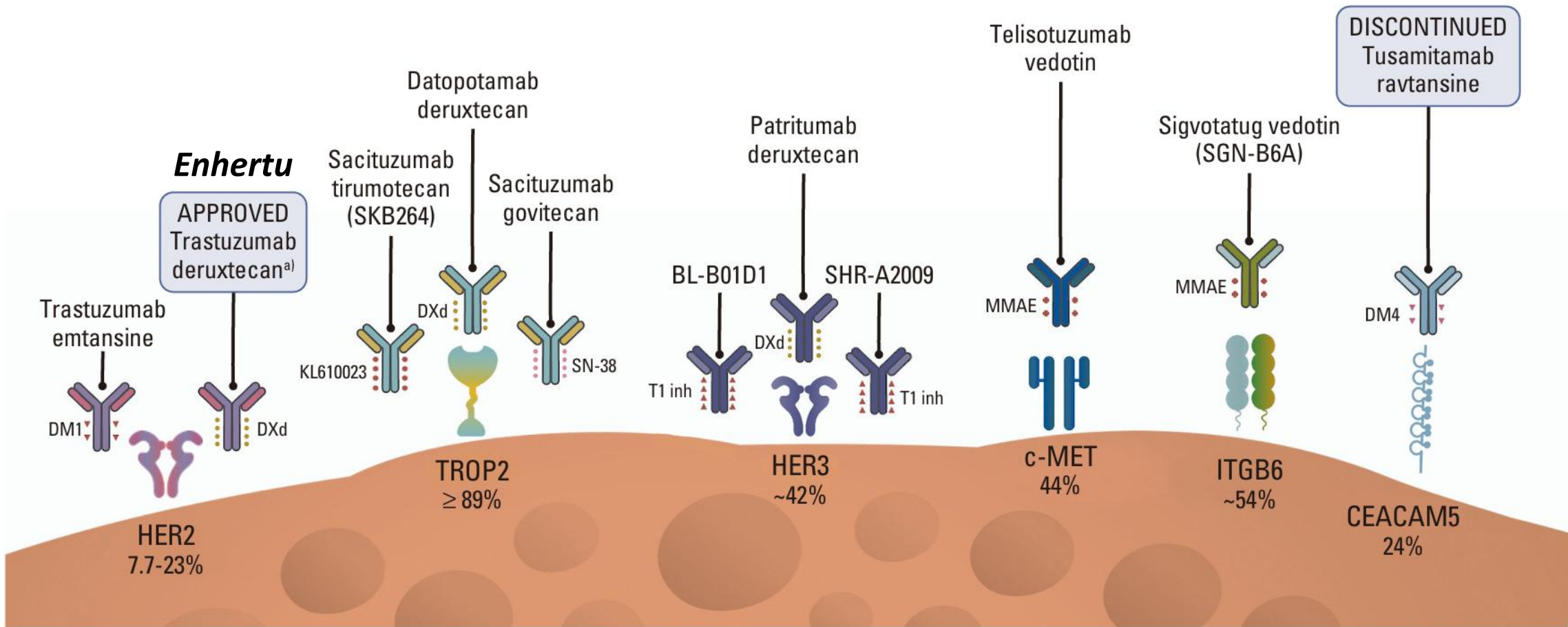
Complement-Dependent Cytotoxicity (CDC)



Targets for antibody (NSCLC)

The Era of Antibody Drug Conjugates in Lung Cancer: Trick or Threat?

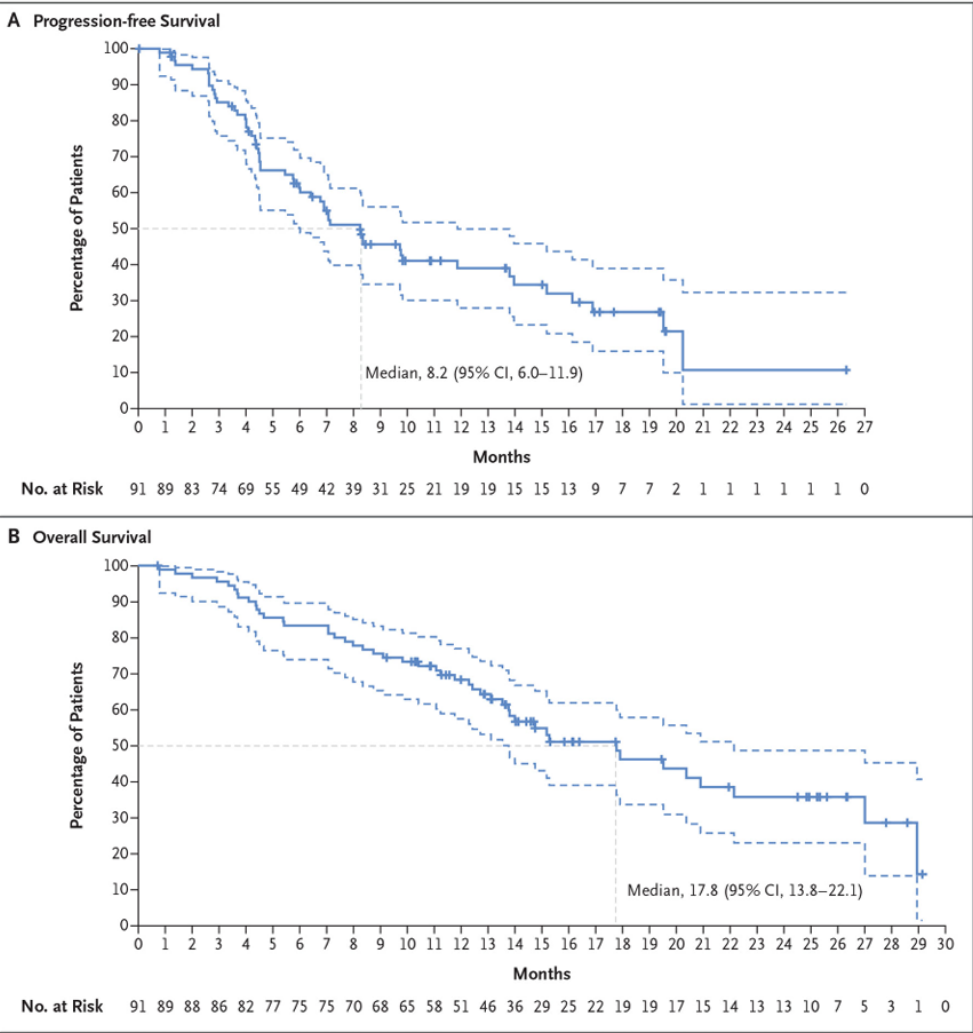
Cancer Res Treat. 2025;57(2):293-311



DESTINY-Lung01 (NSCLC) : 6.4 mg per kilogram of body weight

Trastuzumab Deruxtecan in HER2-Mutant Non-Small-Cell Lung Cancer

N Engl J Med. 2022 Jan 20;386(3):241-251.



Previous cancer therapy — no. (%)	90 (99) ^{\$}
No. of lines of previous cancer therapy — median (range)	2 (0–7)
Previous cancer therapy — no. (%)	
Platinum-based therapy	86 (95)
Docetaxel	18 (20)
Anti-PD-1 or anti-PD-L1 treatment	60 (66)
HER2 TKI	13 (14)

Table S5. Adjudicated Drug-related Interstitial Lung Disease.

	Patients (N = 91)					
	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Total
Adjudicated drug-related interstitial lung disease, n (%) [*]	3 (3.3)	15 (16.5)	4 (4.4)	0	2 (2.2) [†]	24 (26.4)

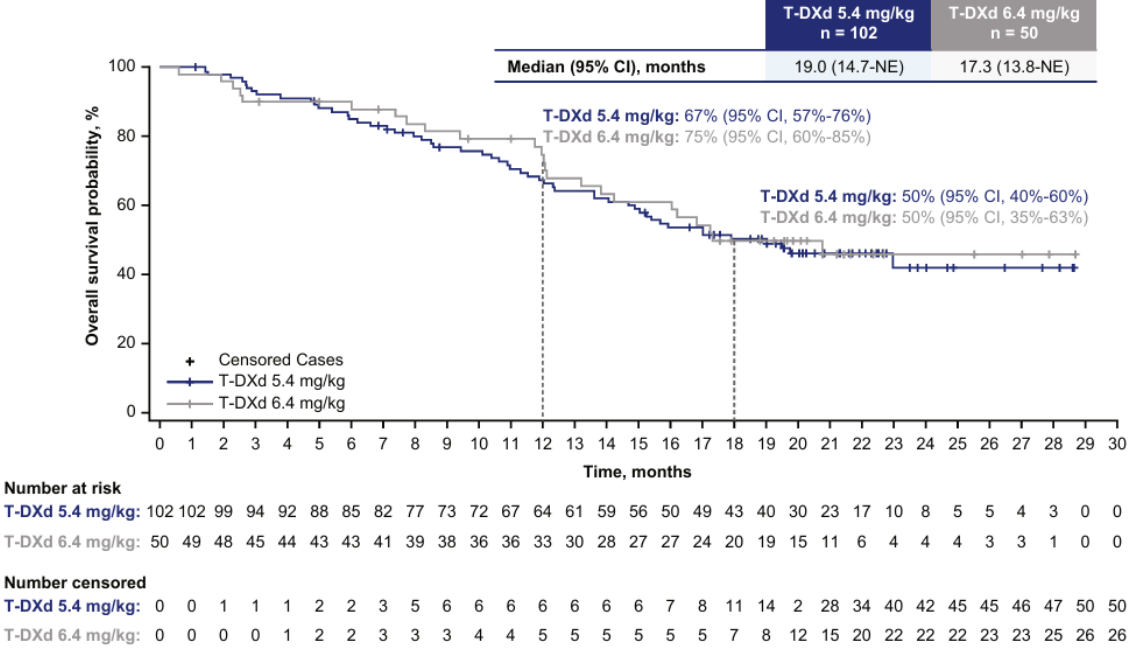
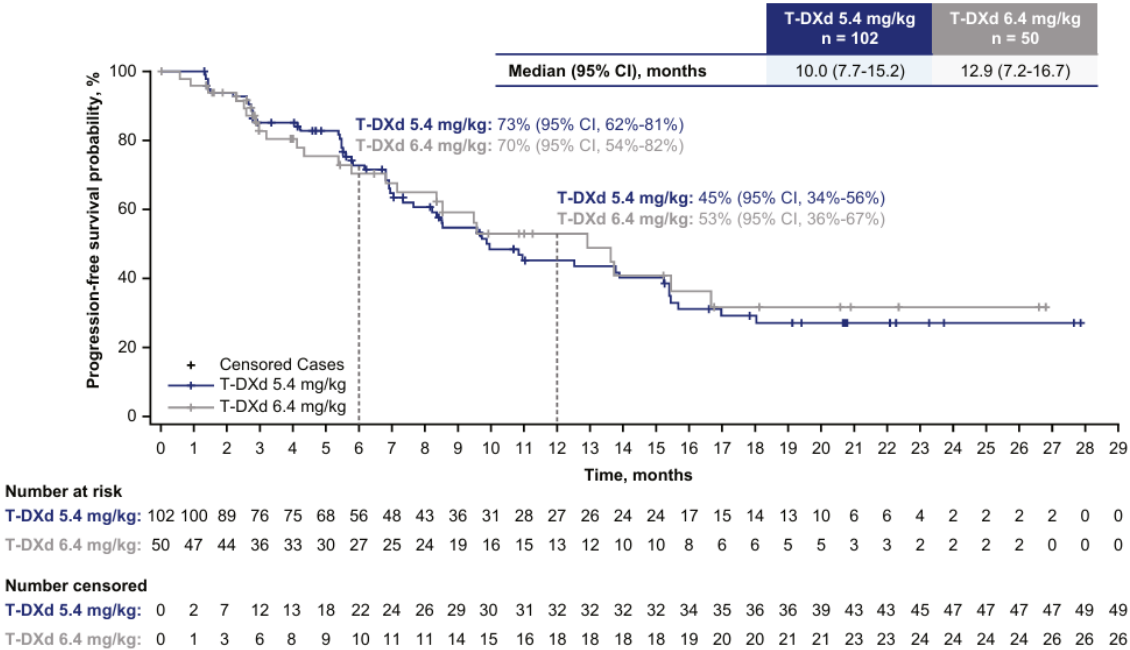
^{*} In some patients, glucocorticoids were not fully in line with the interstitial lung disease management guidelines.

[†] One patient with grade 5 interstitial lung disease had a history of partial lobectomy and 2 lines of prior cancer therapy, including 6 months of treatment with durvalumab immediately before starting the study drug. The patient was initially diagnosed with grade 3 pneumonitis 85 days after the first infusion of trastuzumab deruxtecan. Three days later, the patient received oral prednisone 1.5 mg per kilogram daily for 8 days, followed by intravenous methylprednisolone 500 mg daily for 4 days. The patient died 18 days later after the event onset. The other patient with grade 5 interstitial lung disease had a history of lobectomy and 1 line of prior cancer therapy, including 2 months of treatment with pembrolizumab immediately before starting the study drug. The patient was initially diagnosed with grade 3 interstitial lung disease 114 days after the first infusion of trastuzumab deruxtecan. Five days later, the patient received intravenous methylprednisolone 1000 mg daily for 3 days, followed by gradual tapering of intravenous prednisolone from 50 mg daily to 20 mg daily for about 10 days. The patient died 22 days later after the event onset.

DESTINY-Lung02 (NSCLC) : 5.4mg vs 6.4 mg

Final Analysis Results and Patient-Reported Outcomes From DESTINY-Lung02-A Dose-Blinded, Randomized, Phase 2 Study of Trastuzumab Deruxtecan in Patients With HER2-Mutant Metastatic NSCLC

J Thorac Oncol. 2025 Dec;20(12):1814-1828.



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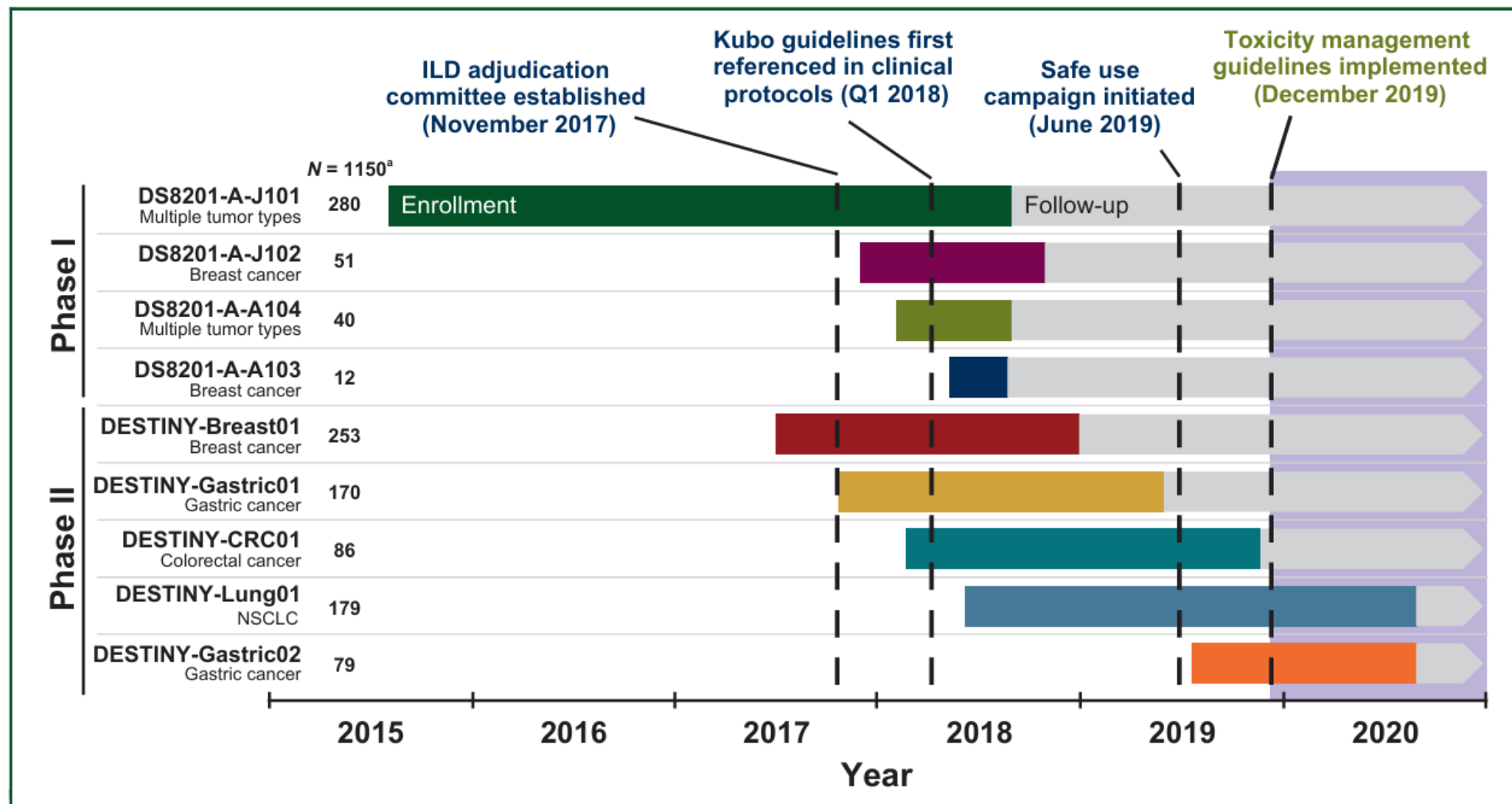
J Thorac Oncol. 2025 Dec;20(12):1814-1828.

Adjudicated Drug-Related ILD Variable	T-DXd 5.4 mg/kg n = 101 ^b	T-DXd 6.4 mg/kg n = 50 ^b
Any grade, n (%)	15 (14.9)	16 (32.0)
Grade 1	4 (4.0)	3 (6.0)
Grade 2	9 (8.9)	11 (22.0)
Grade 3	1 (1.0)	1 (2.0)
Grade 4	0	0
Grade 5	1 (1.0) ^c	1 (2.0) ^c
Grade ≥ 3	2 (2.0)	2 (4.0)
Outcome of ILD events, ^{d,e} n/N (%)		
Fatal	1/15 (6.7)	1/16 (6.3)
Not recovered/not resolved	3/15 (20.0)	6/16 (37.5)
Recovering/resolving	1/15 (6.7)	0
Recovered/resolved with sequelae	0	1/16 (6.3)
Recovered/resolved	10/15 (66.7)	8/16 (50.0)
Treatment of ILD, ^{e,f} n/N (%)		
Steroids ^g	12/15 (80.0)	13/16 (81.3)
Antibiotics	7/15 (46.7)	5/16 (31.8)
Steroids and antibiotics	6/15 (40.0)	4/16 (25.0)

Pooled analysis

Pooled analysis of drug-related interstitial lung disease and/or pneumonitis in nine trastuzumab deruxtecan monotherapy studies

ESMO Open. 2022 Aug;7(4):100554.



Pooled analysis of drug-related interstitial lung disease and/or pneumonitis in nine trastuzumab deruxtecan monotherapy studies

ESMO Open. 2022 Aug;7(4):100554.

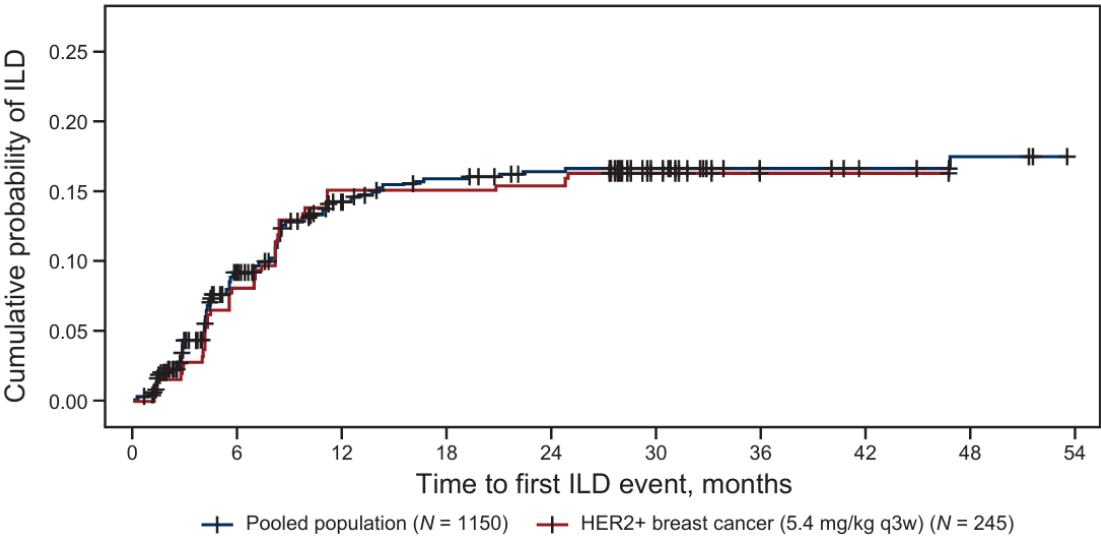
Table 3. Adjudicated drug-related ILD/pneumonitis by tumor type and grade ^a						
n (%)	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Total
All patients (N = 1150)	48 (4.2)	89 (7.7)	14 (1.2)	1 (0.1)	25 (2.2)	177 (15.4)
Breast cancer (n = 510)	32 (6.3)	51 (10.0)	7 (1.4)	0	15 (2.9)	105 (20.6)
HER2-positive breast cancer treated with T-DXd 5.4 mg/kg q3w (n = 245) ^b	9 (3.7)	22 (9.0)	2 (0.8)	0	7 (2.9)	40 (16.3)
Gastric cancer (n = 294)	5 (1.7)	15 (5.1)	3 (1.0)	1 (0.3)	1 (0.3)	25 (8.5)
Lung cancer (n = 203) ^c	7 (3.4)	16 (7.9)	2 (1.0)	0	6 (3.0)	31 (15.3)
Colorectal cancer (n = 107)	0	5 (4.7)	1 (0.9)	0	3 (2.8)	9 (8.4)
Other cancer (n = 34)	4 (11.8)	2 (5.9)	1 (2.9)	0	0	7 (20.6)

HER2, human epidermal growth factor receptor 2; ILD, interstitial lung disease; q3w, every 3 weeks; T-DXd, trastuzumab deruxtecan.

^aPatients with multiple ILD/pneumonitis events are listed only once in this table, based on the event with the highest grade.

^bThe HER2-positive breast cancer population (n = 245) is a subset of the entire breast cancer population (n = 510).

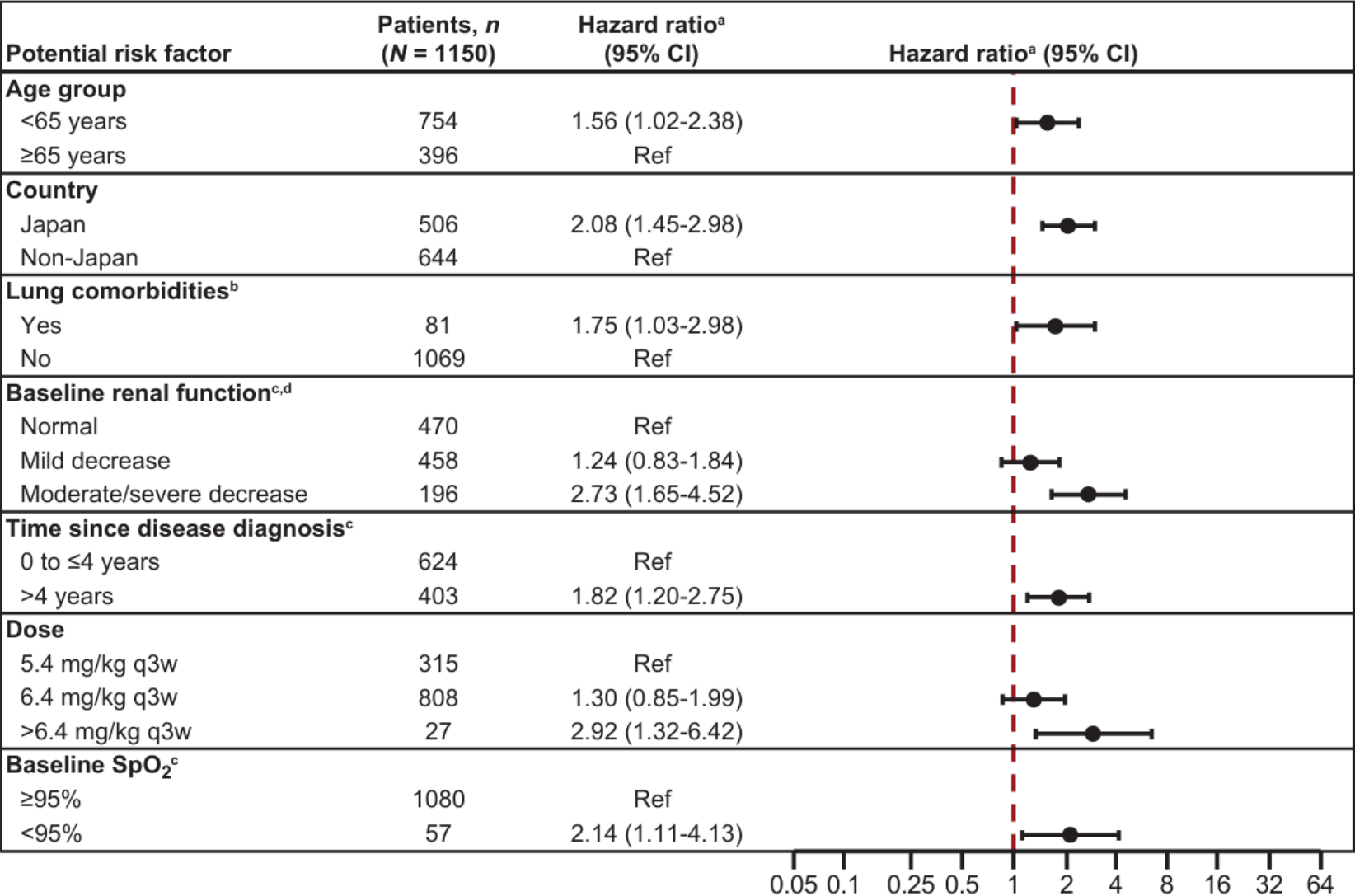
^cAll patients with lung cancer received 6.4 mg/kg q3w of T-DXd.



Pooled analysis

Pooled analysis of drug-related interstitial lung disease and/or pneumonitis in nine trastuzumab deruxtecan monotherapy studies

ESMO Open. 2022 Aug;7(4):100554.



ENHERTU® (fam-trastuzumab deruxtecan-nxki) for injection, for intravenous use
Initial U.S. Approval: 2019

WARNING: INTERSTITIAL LUNG DISEASE and EMBRYO-FETAL TOXICITY

See full prescribing information for complete boxed warning.

- Interstitial lung disease (ILD) and pneumonitis, including fatal cases, have been reported with ENHERTU. Monitor for and promptly investigate signs and symptoms including cough, dyspnea, fever, and other new or worsening respiratory symptoms. Permanently discontinue ENHERTU in all patients with Grade 2 or higher ILD/pneumonitis. Advise patients of the risk and to immediately report symptoms. (2.3, 5.1)
- Exposure to ENHERTU during pregnancy can cause embryo-fetal harm. Advise patients of these risks and the need for effective contraception. (5.4, 8.1, 8.3)

Grade	핵심 기준
Grade 1	CT에서 GGO·OP pattern 등이 보이지만 무증상 , 치료가 필요하지 않음
Grade 2	증상이 있고 치료가 필요 , instrumental ADL 제한
Grade 3	심한 증상, 산소치료가 필요 , self-care ADL 제한
Grade 4	생명을 위협하는 호흡부전, 삽관 등 긴급 처치 필요
Grade 5	사망

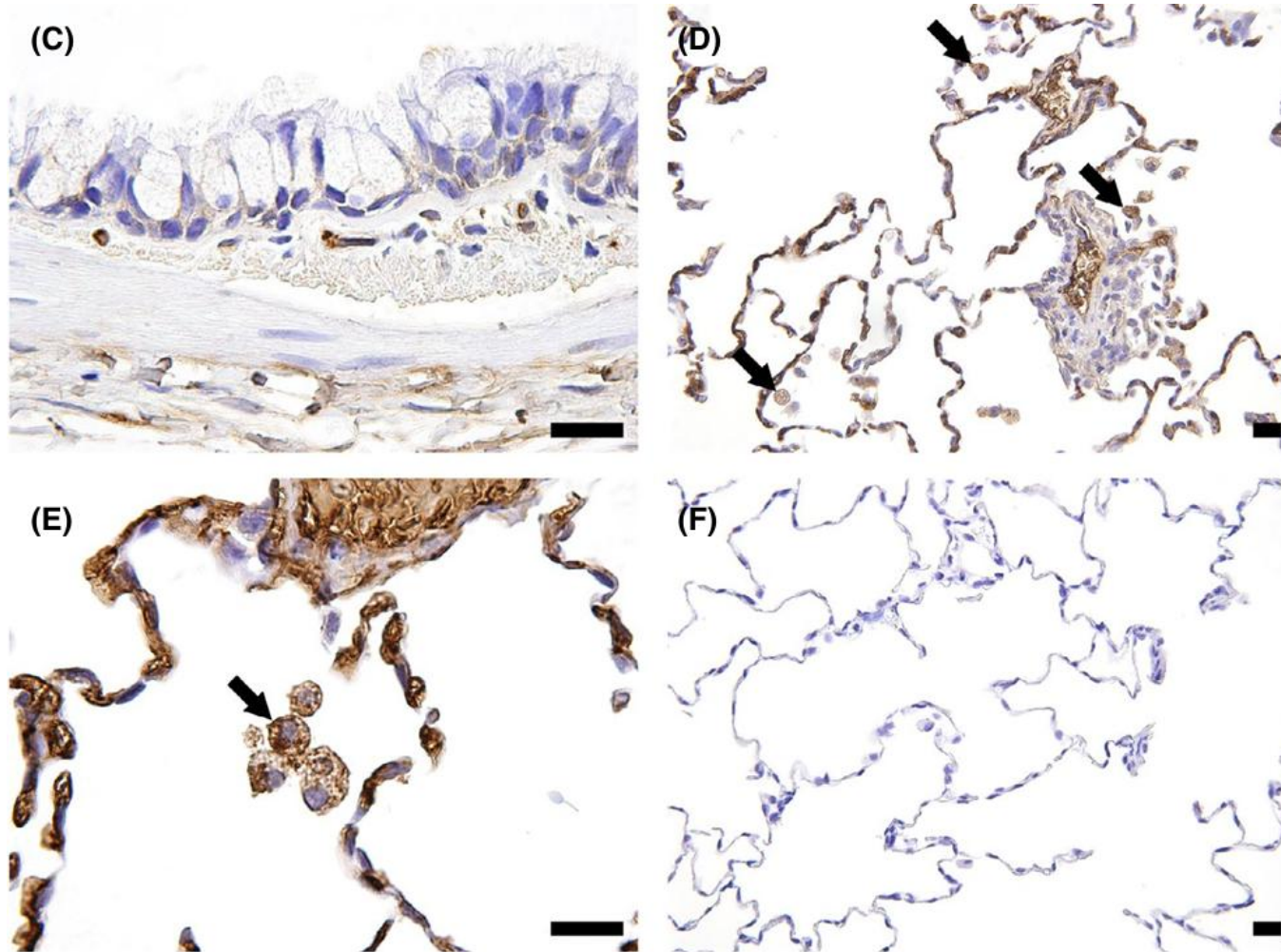
Table 1: Dosage Reduction Schedule

Dose Reduction Schedule	Breast Cancer, NSCLC, and IHC 3+ Solid Tumors	Gastric Cancer
Recommended starting dose	5.4 mg/kg	6.4 mg/kg
First dose reduction	4.4 mg/kg	5.4 mg/kg
Second dose reduction	3.2 mg/kg	4.4 mg/kg
Requirement for further dose reduction	Discontinue treatment.	Discontinue treatment.

Mechanism : payload-mediated lung injury > HER2 target

Interstitial pneumonitis related to trastuzumab deruxtecan, a human epidermal growth factor receptor 2-targeting Ab-drug conjugate, in monkeys

Cancer Sci. 2020 Dec;111(12):4636-4645.



Oncologic Emergencies in Lung Cancer

Essential take-home comments for rapid clinical decisions

1. Malignant pericardial effusion: Moderate (10m m), < 7days, Cath remove <25–30 mL/24 h.

2. Hemoptysis: Tranexamic acid, the bleeding lung down, routine bronchoscopy X, BAE (Main)

3. Symptomatic brain metastases: Dexamethason e for symptoms (not imaging)

4. ICI pneumonitis/myocarditis: A high level of suspicion, A watchful waiting approach, Grading, Immunosuppression : 2 day/start

5. BiTE/tarlatamab CRS–ICANS: CRS is usually early and low grade, ICANS may occur separately - check mental status.

6. ADC / T-DXd ILD: Payload-mediated lung injury, fibrosis, 5.4mg/kg, <12months

Core mindset: A high level of suspicion, A watchful waiting approach, Grading, Immunosuppression

감사합니다