Chemotherapy

for Patients with Lung Cancer

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서울아산병원

HAGÆ-COMITUM
Apud Adrianum Vlacq 1657.

ΧΕΙΡΟΠΑΟΘΗΚΗ,
SEU

D. JOANNIS SCULTETI,

Physici & Chyrurgi apud Ulmenses
olim feliciſſimi

ARMAMENTARIUM CHIRVRGICVM

XLIII. Tabulis Æri elegantiſſimè inciſis, nec ante hac viſis, exornatum.

OPUS POSTHUMUM,

Medicinæ pariter ac Chirurgiæ Studioſis perutile & neceſſarium,

In quo tot, tam Veterum ac Recentiorum Inſtrumenta ab Authore correcta, quàm noviter ab ipſo inventa, quot ferè hodiè ad uſitatas operationes manuales feliciter peragendas requiruntur, depicta reperiuntur, cum annexa brevi Tabularum deſcriptione, & ſequentibus cautionibus ac curationibus Chirurgico-Medicis per omnes ferè corporis humani partes externas obſervatis.

Cum triplici Inſtrumentorum, Curationum, rerumque memorabilium Indice.

HAGÆ-COMITUM,
Ex Officina ADRIANI VLACQ.
M. DC. LVI.

청룡언월도	Drugs
상황	Indication
기술	Dose Combination
칼집	Safety AE manage
근력	Team
관리, 운반	Storage & Dispensing

Contents

- Armamentarium
- Checklist before Chemotherapy
  - Safety Guideline
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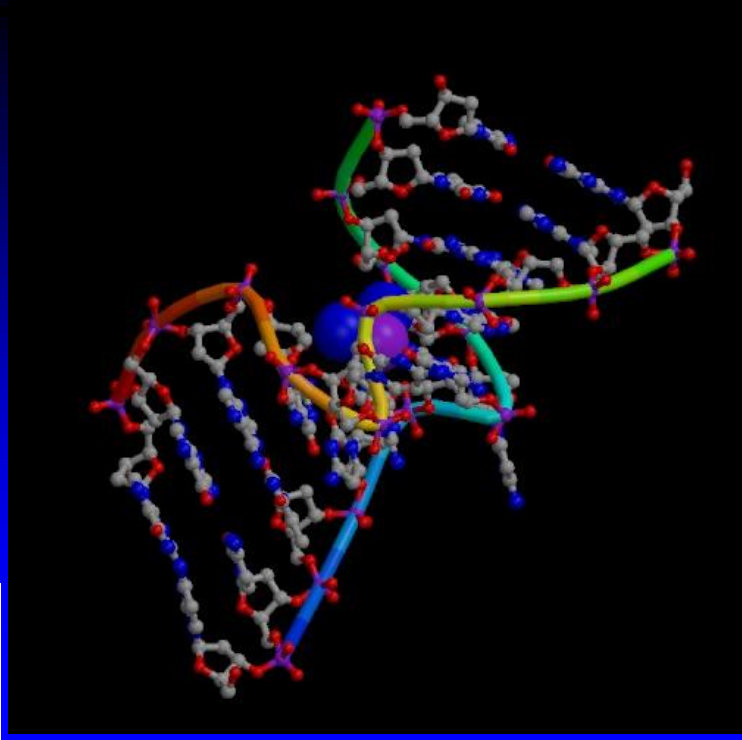
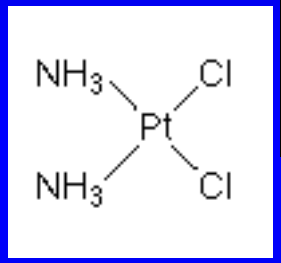
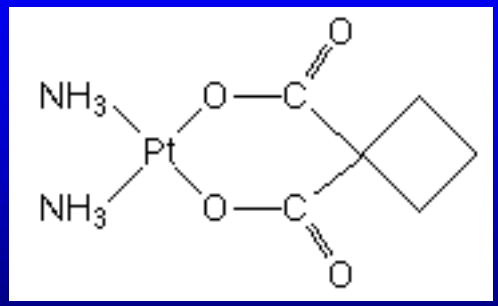
Platinum



Cross-link to DNA
→ Denature Double Helix structure
→ inhibit DNA synthesis.



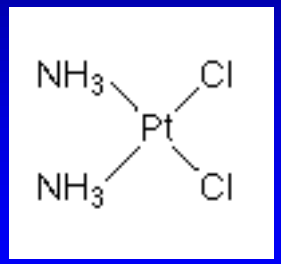
Cisplatin:
- Prehydration 1~2L
- Maintain U/O > 100mL/hr
- Fluid & furosemide & mannitol
- Avoid Aluminum in IV set
- 60~75mg/m^2 mixed in 0.9% NaCl
- Dose adjustment by Renal & BM function



Carboplatin:
- Less nephrotoxicity & emesis than Cisplatin
- More BM suppression
- Dosage adjustment by renal function (ex; Calvert's formula)
- IV mixed in D5W.

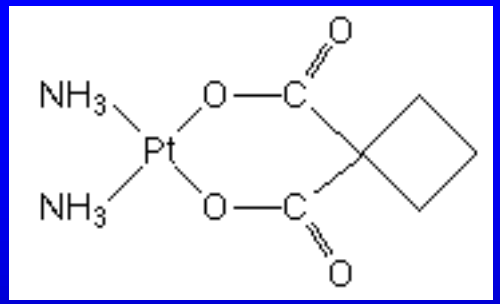
Platinum Dose Adjustment

Cisplatin :



CrCl 10~50 mL/min : 75%
CrCl < 10 mL/min : 50%
HD : partially cleared by HD, 50% post-HD

No dosage adjustment for Hepatic impairment

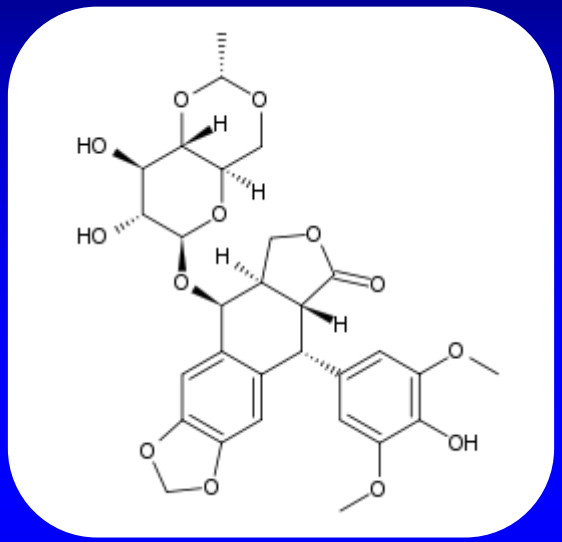


Carboplatin:

Dosage adjustment by renal function (ex; Calvert's formula)

No dosage adjustment for Hepatic impairment

Etoposide

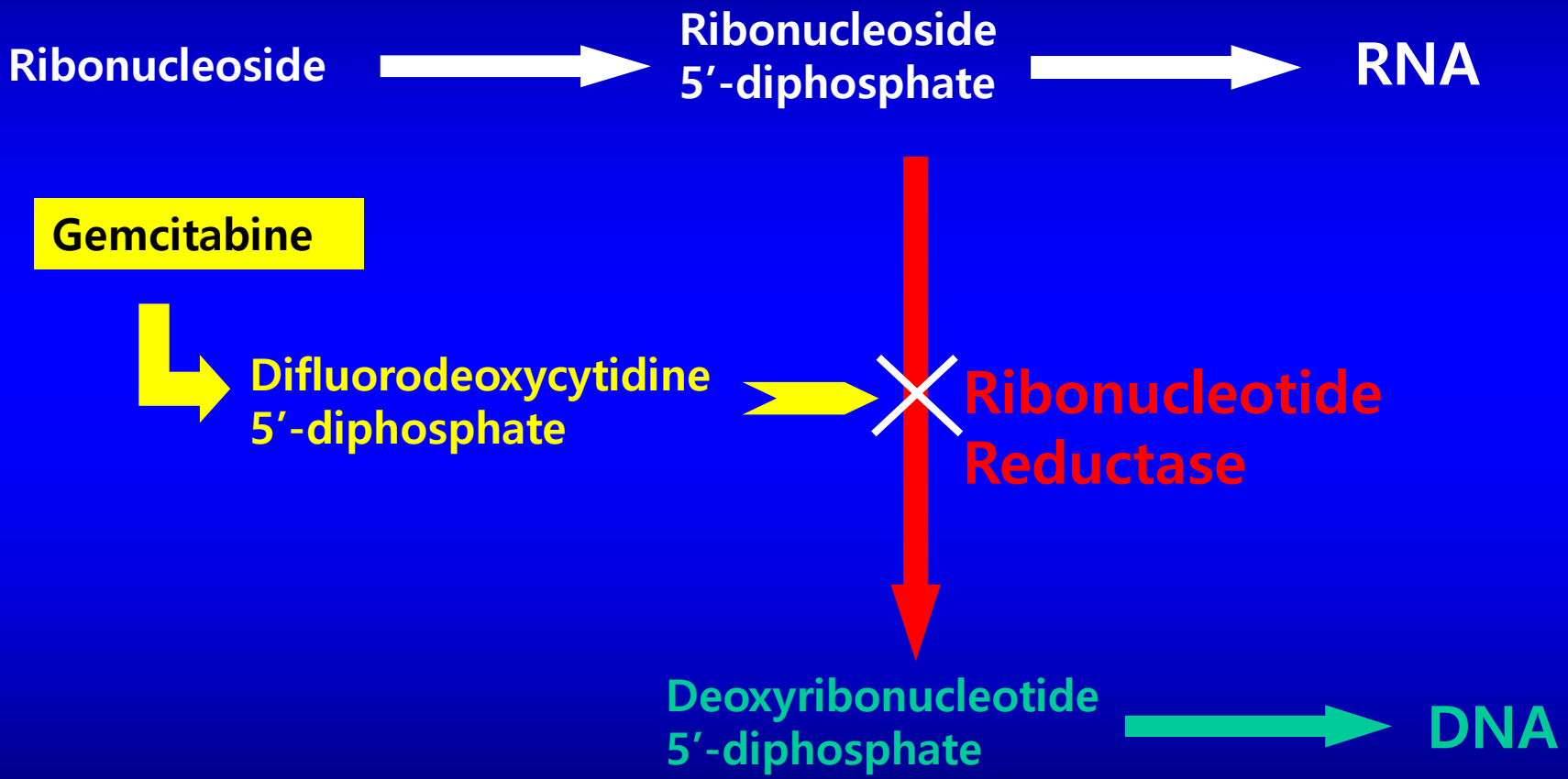


Forms a ternary complex with
DNA and the topoisomerase II
(which aids in DNA unwinding)

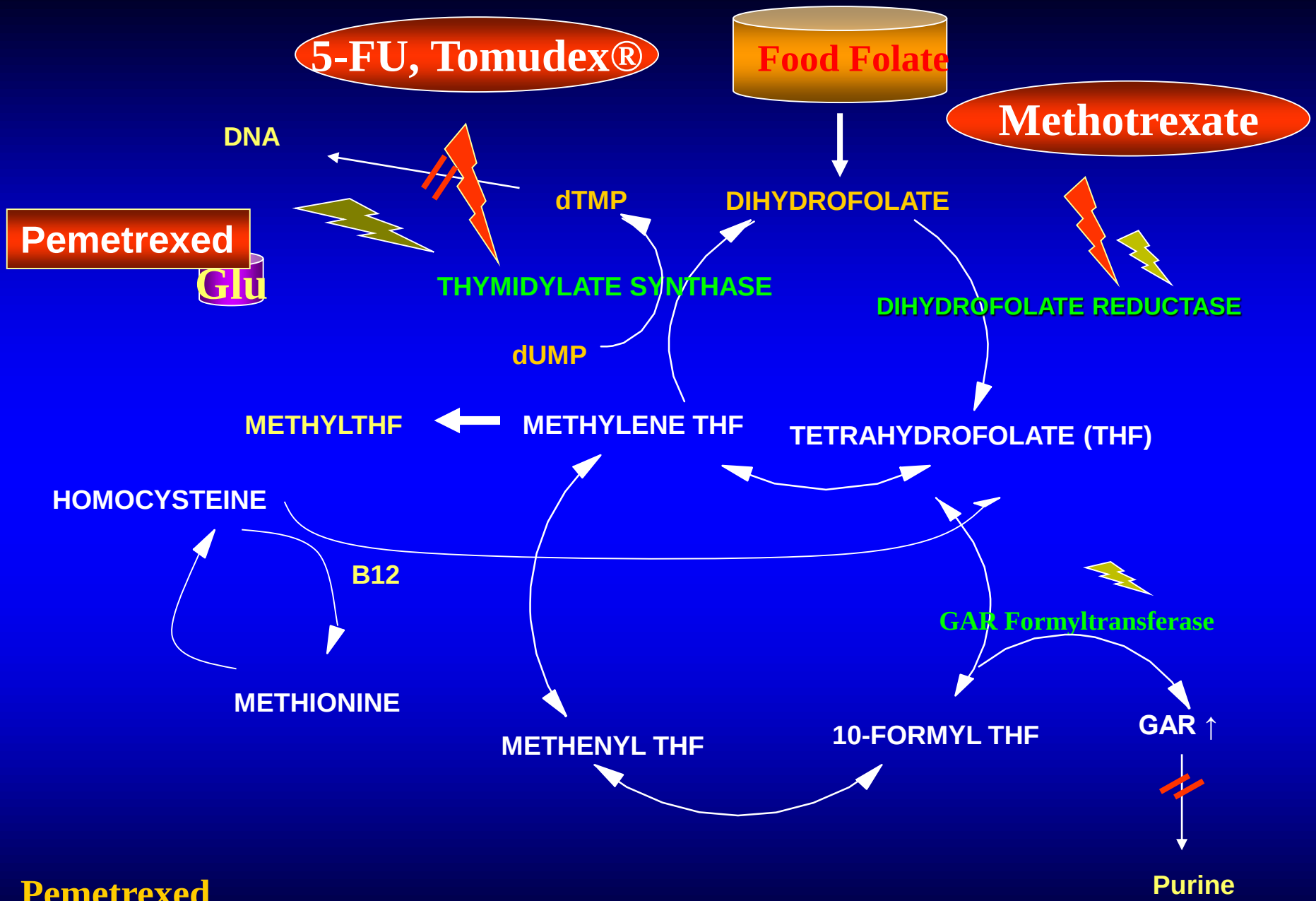
Prevents re-ligation of the DNA strands
Causes DNA strands break.

Renal impairment
CrCl > 50 mL/min : No adjustment required.
CrCl 15-50 mL/min : 75%
CrCl < 15 mL/min : Further dose reduction
Hepatic impairment
Bilirubin 1.5~3 mg/dL or AST > 3x ULN : 50%

Gemcitabine and DNA damage



Rosell R, Bepler G et al. Clinical Cancer Research. 2004 10:1318

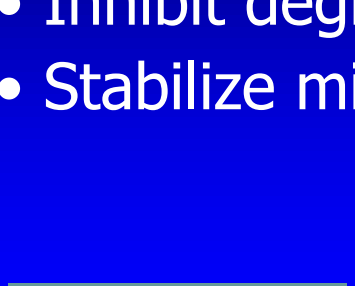


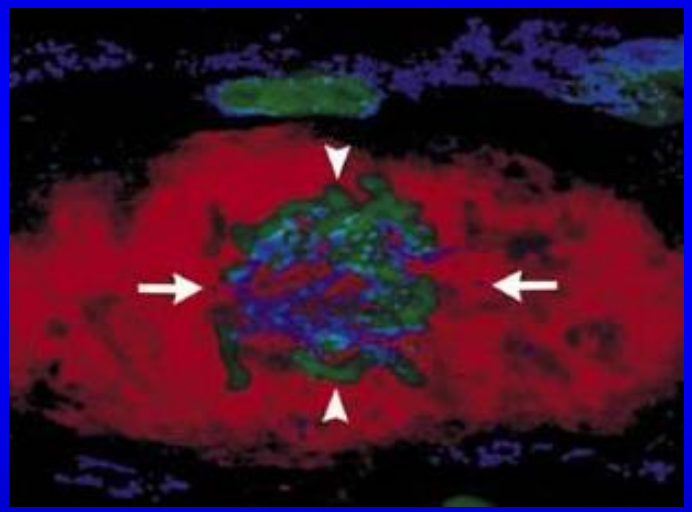
Pemetrexed
Key Intracellular Folate Enzyme Targets

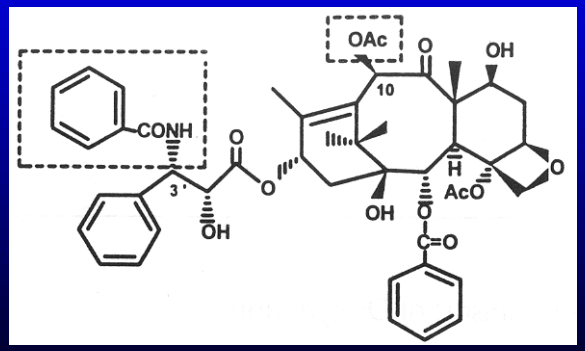
Kindler HL Cancer 95(4):929-932, 2002

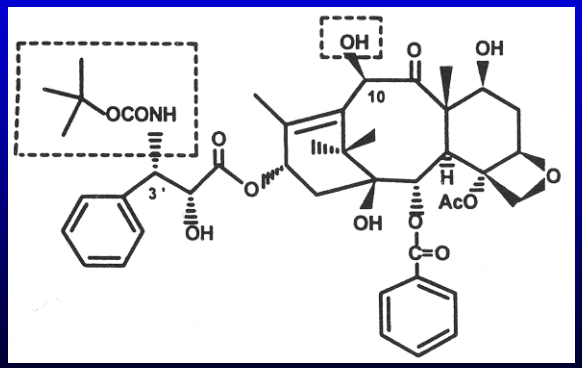
Taxane

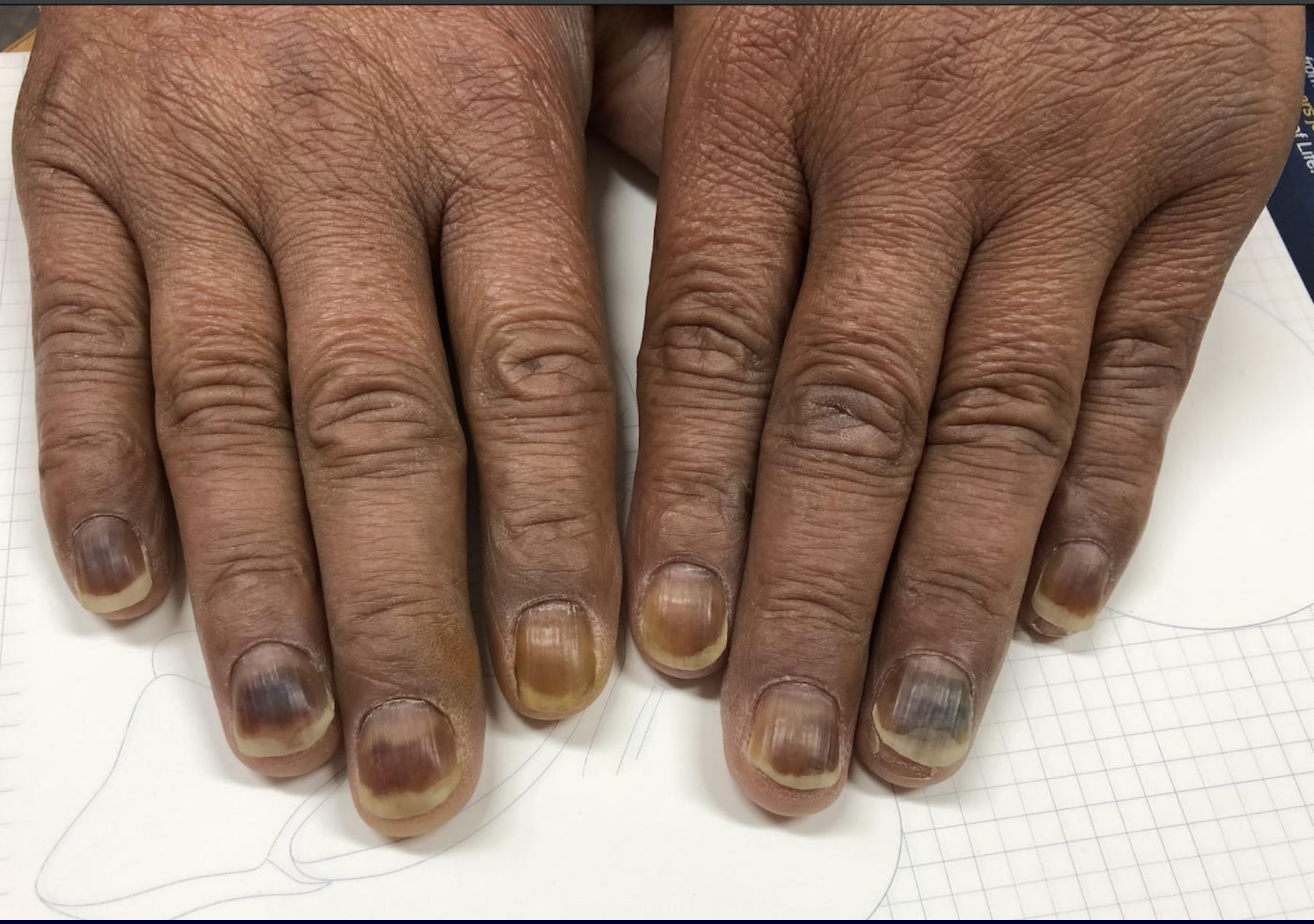
- Inhibit degradation of tubulin
- Stabilize microtubule → effect on M phase





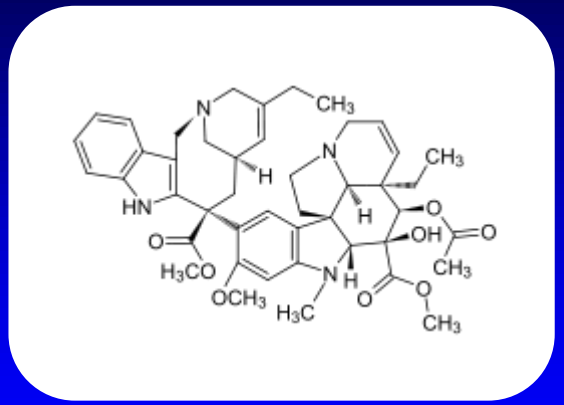






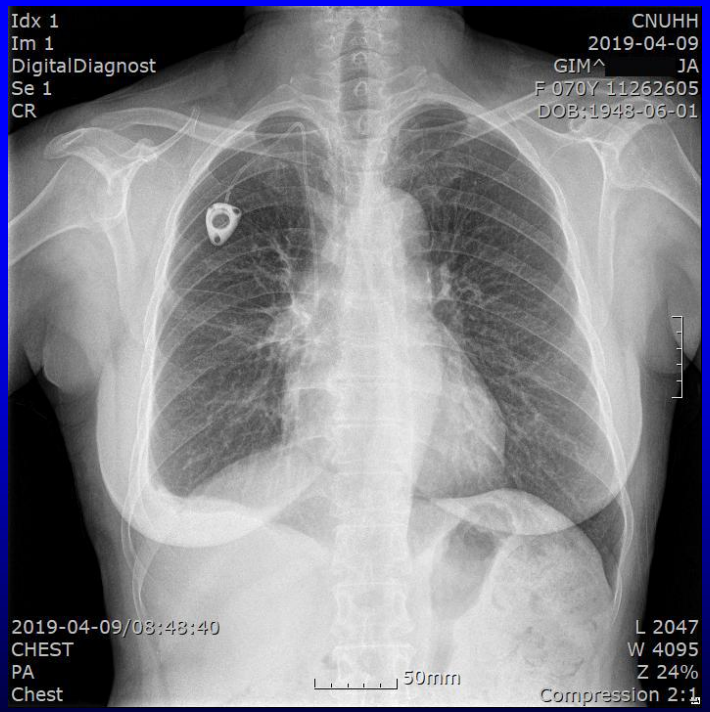
Vinorelbine

Interaction with tubulin
Inhibition of Mitosis



Vesicants
- Vinorelbine, Taxanes

Irritants
- Etoposide, Platinums



Renal and Hepatic Dosage Adjustment Scheme

	Renal / Hemodialysis	Hepatic
Vinorelbine	None / 80% after	Bilirubin < 2 : 100% Bilirubin 2.1~3 : 50% Bilirubin > 3 : 25%
Paclitaxel	None / before or after	LFT < 2x ULN 100% LFT 2~10x ULN 75%
Docetaxel	None / before or after	LFT 2.5~5x ULN 80% LFT > 5x ULN Discontinue
Gemcitabine	None / Gem → 6~12 hr → HD	LFT : None Bilirubin > 1.6 : 800 mg/m^2
Pemetrexed	CrCl > 45 mL/min : None CrCl < 45 mL/min : Not rec	None

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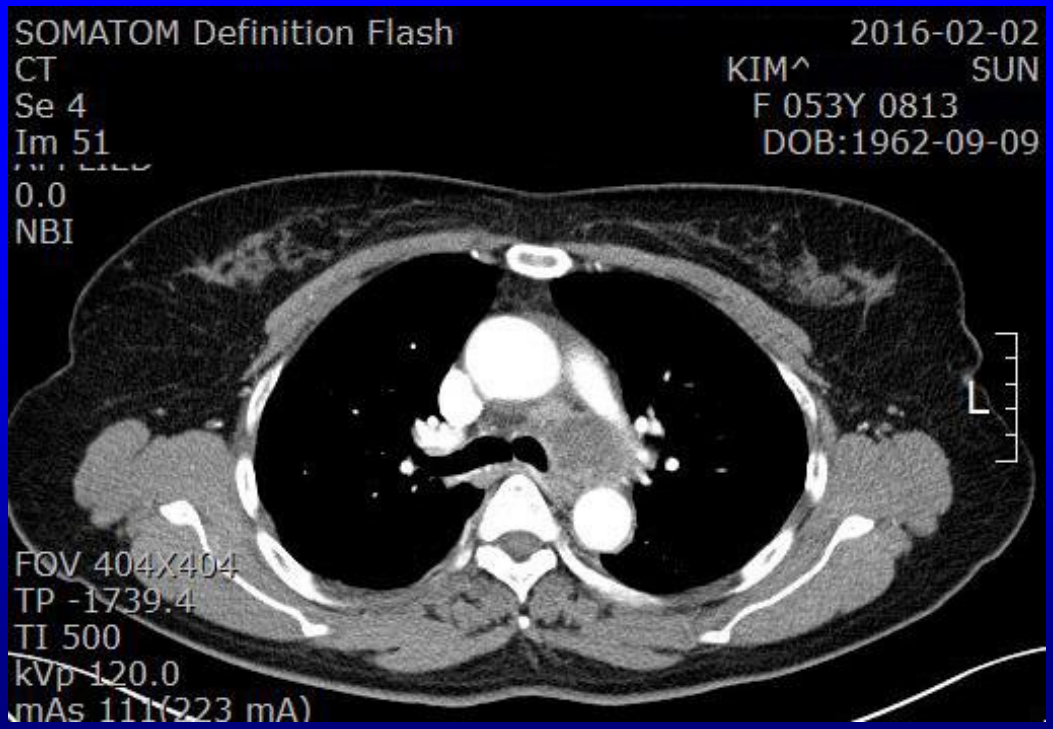
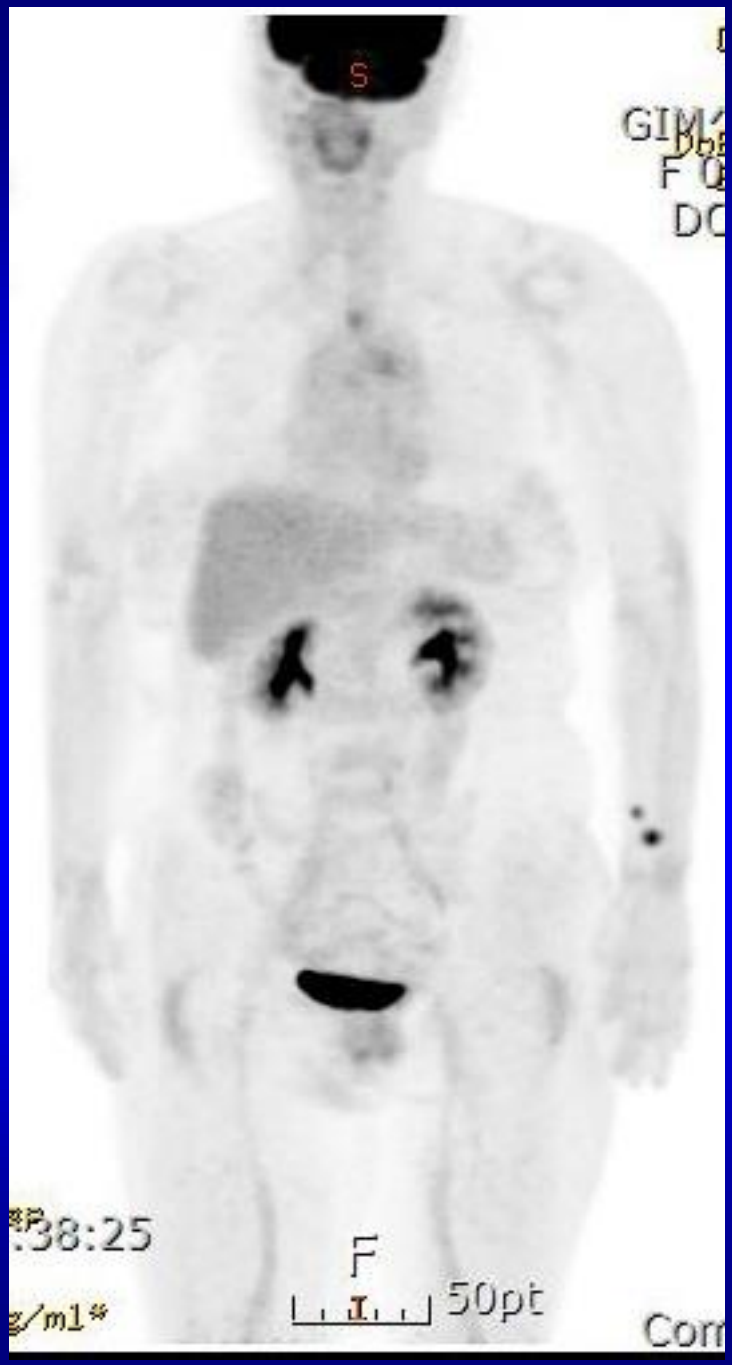
5 Cases

- 1/5. Small Cell Ca. Limited Stage
  - Neutropenia, Anemia, PCI
- 2/5. Small Cell Ca. Extensive Stage
  - Safety guideline, Antiemetics
- 3/5. Squamous Cell Ca. IV
  - Extravasation
- 4/5. Adenocarcinoma. IV
  - Response evaluation
- 5/5. Adenocarcinoma. IV
  - Adding Local Treatment

53/F, SCLC
Limited Ds
2016 Mar 10





National Comprehensive Cancer Network®

NCCN Guidelines Version 1.2019
Small Cell Lung Cancer

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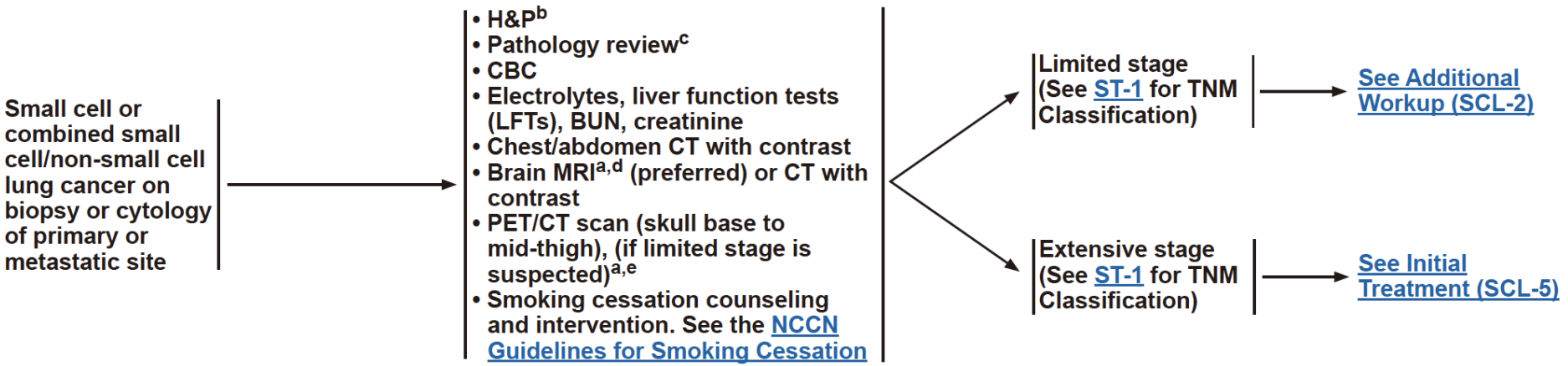

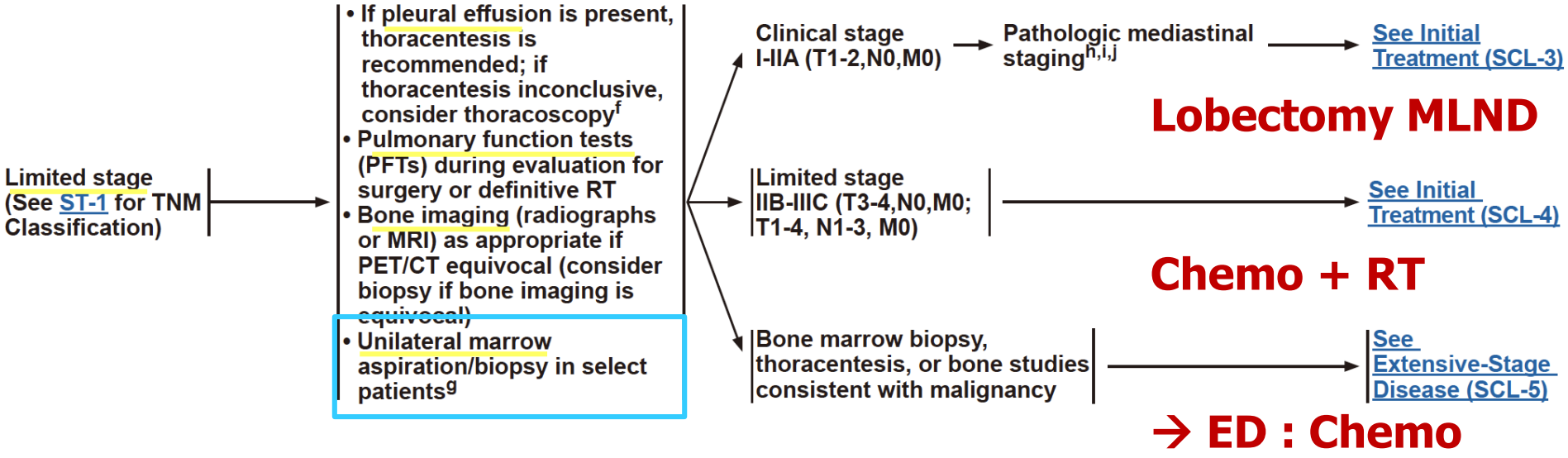

[f]While most pleural effusions in patients with lung cancer are due to tumor, there are a few patients in whom multiple cytopathologic examinations of pleural fluid are negative for tumor and fluid is non-bloody and not an exudate. When these elements and clinical judgment dictate that the effusion is not related to the tumor, the effusion should be excluded as a staging element. Pericardial effusion is classified using the same criteria.

[g]Selection criteria include: nucleated red blood cells (RBCs) on peripheral blood smear, neutropenia, or thrombocytopenia suggestive of bone marrow infiltration.

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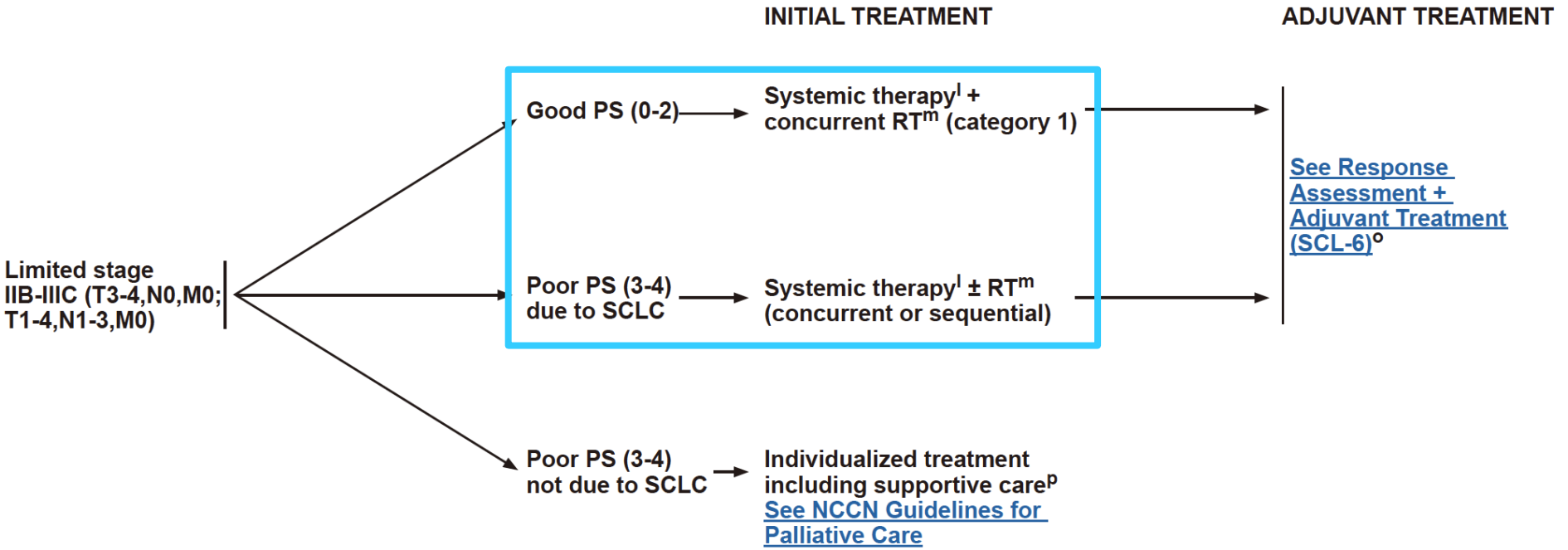


선호하는 처방은 ?

1. Etoposide + Cisplatin
2. Etoposide + Carboplatin
3. Irinotecan + Cisplatin
4. Irinotecan + Carboplatin
5. Cyclophosphamide + Adriamycin + Vincristine

PRINCIPLES OF SYSTEMIC THERAPY*

Systemic therapy as primary or adjuvant therapy:

- Limited stage (maximum of 4–6 cycles):
  - Cisplatin 75 mg/m² day 1 and etoposide 100 mg/m² days 1, 2, 3[1]
  - Cisplatin 25 mg/m² days 1, 2, 3 and etoposide 100 mg/m² days 1, 2, 3[1]
  - Cisplatin 60 mg/m² day 1 and etoposide 120 mg/m² days 1, 2, 3[2]
  - Carboplatin AUC 5–6 day 1 and etoposide 100 mg/m² days 1, 2, 3[3]
  - During systemic therapy + RT, cisplatin/etoposide is recommended (category 1).
  - The use of myeloid growth factors is not recommended during concurrent systemic therapy plus radiotherapy (category 1 for not using GM-CSF).[4]

- Extensive stage (maximum of 4–6 cycles):
  - Carboplatin AUC 5 day 1 and etoposide 100 mg/m² days 1, 2, 3 and atezolizumab 1,200 mg day 1 every 21 days x 4 cycles followed by maintenance atezolizumab 1,200 mg (category 1, preferred)[§,5]
  - Carboplatin AUC 5–6 day 1 and etoposide 100 mg/m² days 1, 2, 3[†,6]
  - Cisplatin 75 mg/m² day 1 and etoposide 100 mg/m² days 1, 2, 3[†,7]
  - Cisplatin 80 mg/m² day 1 and etoposide 80 mg/m² days 1, 2, 3[†,8]
  - Cisplatin 25 mg/m² days 1, 2, 3 and etoposide 100 mg/m² days 1, 2, 3[†,9]
  - Carboplatin AUC 5 day 1 and irinotecan 50 mg/m² days 1, 8, 15[†,10]
  - Cisplatin 60 mg/m² day 1 and irinotecan 60 mg/m² days 1, 8, 15[†,11]
  - Cisplatin 30 mg/m² days 1, 8 and irinotecan 65 mg/m² days 1, 8[†,12]

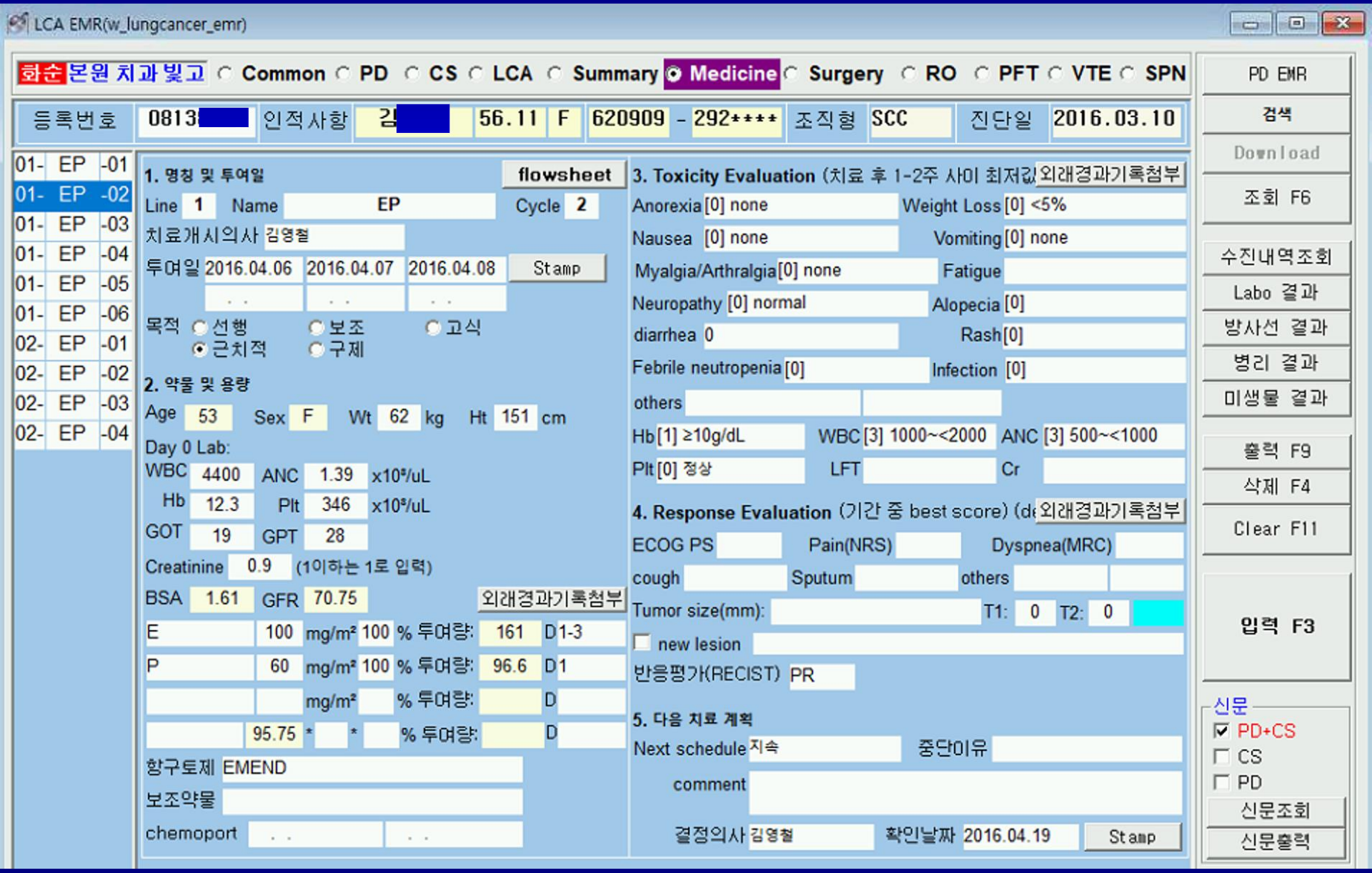
Subsequent systemic therapy:[‡]

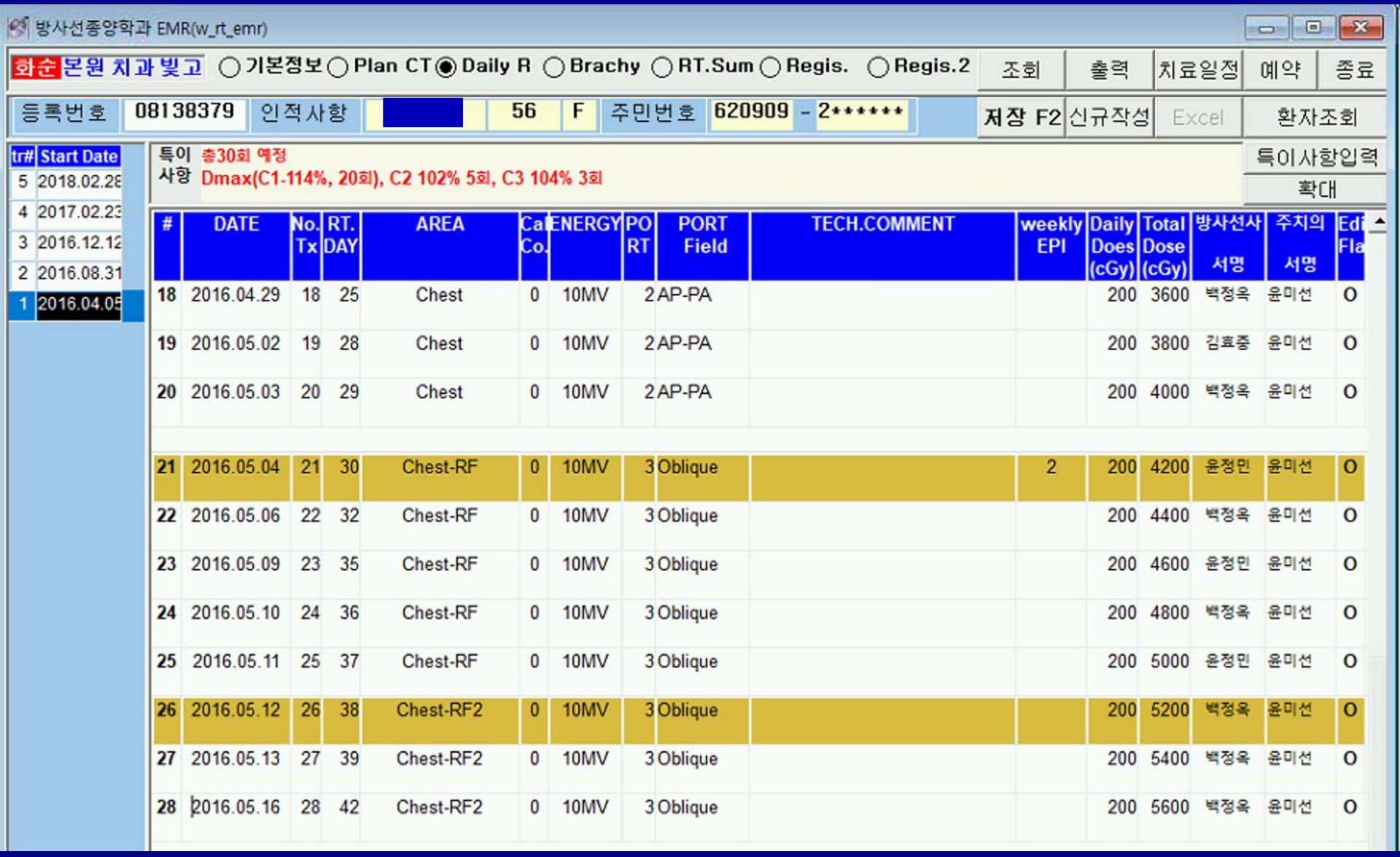
- Clinical trial preferred.

- Relapse ≤6 mo, PS 0-2:
  - Topotecan PO or IV[13-15]
  - Irinotecan[16]
  - Paclitaxel[17,18]
  - Docetaxel[19]
  - Temozolomide[20,21]
  - Nivolumab ± ipilimumab[22,23]
  - Pembrolizumab[24]
  - Vinorelbine[25,26]
  - Oral etoposide[27,28]
  - Gemcitabine[29,30]
  - Cyclophosphamide/doxorubicin/vincristine (CAV)[12]
  - Bendamustine (category 2B)[31]

- Relapse >6 mo: original regimen[32,33§]

Consider dose reduction or growth factor support for patients with PS 2


LCA EMR(w_lungcancer_emr)
화순본원 치과 빛고
Common PD CS LCA Summary Medicine Surgery RO PFT VTE SPN
등록번호 0813[redacted] 인적사항 김[redacted] 56.11 F 620909 - 292**** 조직형 SCC 진단일 2016.03.10
01- EP -01
01- EP -02
01- EP -03
01- EP -04
01- EP -05
01- EP -06
02- EP -01
02- EP -02
02- EP -03
02- EP -04
1. 명칭 및 투여일
flowsheet
Line 1 Name EP Cycle 2
치료개시의사 김영철
투여일 2016.04.06 2016.04.07 2016.04.08 Stamp
목적 선행 보조 고식 근치적 구제
2. 약물 및 용량
Age 53 Sex F Wt 62 kg Ht 151 cm
Day 0 Lab:
WBC 4400 ANC 1.39 x10³/uL
Hb 12.3 Plt 346 x10³/uL
GOT 19 GPT 28
Creatinine 0.9 (1이하는 1로 입력)
BSA 1.61 GFR 70.75
외래경과기록첨부
E 100 mg/m² 100 % 투여량: 161 D 1-3
P 60 mg/m² 100 % 투여량: 96.6 D 1
mg/m² % 투여량: D
95.75 * * % 투여량: D
항구토제 EMEND
보조약물
chemoport
3. Toxicity Evaluation (치료 후 1-2주 사이 최저값)
외래경과기록첨부
Anorexia [0] none
Weight Loss [0] <5%
Nausea [0] none
Vomiting [0] none
Myalgia/Arthralgia [0] none
Fatigue
Neuropathy [0] normal
Alopecia [0]
diarrhea 0
Rash [0]
Febrile neutropenia [0]
Infection [0]
others
Hb [1] ≥10g/dL
WBC [3] 1000~<2000
ANC [3] 500~<1000
Plt [0] 정상
LFT
Cr
4. Response Evaluation (기간 중 best score) (de
외래경과기록첨부
ECOG PS
Pain(NRS)
Dyspnea(MRC)
cough
Sputum
others
Tumor size(mm):
T1: 0 T2: 0
new lesion
반응평가(RECIST) PR
5. 다음 치료 계획
Next schedule 지속
중단이유
comment
결정의사 김영철
확인날짜 2016.04.19
Stamp
PD EMR
검색
Download
조회 F6
수진내역조회
Labo 결과
방사선 결과
병리 결과
미생물 결과
출력 F9
삭제 F4
Clear F11
입력 F3
신문
PD+CS
CS
PD
신문조회
신문출력



방사선종양학과 EMR(w_rt_emr)

화순본원 치과빛고 ◯기본정보 ◯Plan CT ◉Daily R ◯Brachy ◯RT.Sum ◯Regis. ◯Regis.2 조회 출력 치료일정 예약 종료

등록번호 08138379 인적사항 [redacted] 56 F 주민번호 620909 - 2****** 저장 F2 신규작성 Excel 환자조회

tr#	Start Date
5	2018.02.28
4	2017.02.23
3	2016.12.12
2	2016.08.31
1	2016.04.05

특이사항 총30회 예정
Dmax(C1-114%, 20회), C2 102% 5회, C3 104% 3회

특이사항입력 확대

#	DATE	No. Tx	RT. DAY	AREA	Cal Co.	ENERGY	PORT	PORT Field	TECH.COMMENT	weekly EPI	Daily Does (cGy)	Total Dose (cGy)	방사선사 서명	주치의 서명	Edi Fla
18	2016.04.29	18	25	Chest	0	10MV	2	AP-PA			200	3600	백정옥	윤미선	O
19	2016.05.02	19	28	Chest	0	10MV	2	AP-PA			200	3800	김효중	윤미선	O
20	2016.05.03	20	29	Chest	0	10MV	2	AP-PA			200	4000	백정옥	윤미선	O
21	2016.05.04	21	30	Chest-RF	0	10MV	3	Oblique		2	200	4200	윤정민	윤미선	O
22	2016.05.06	22	32	Chest-RF	0	10MV	3	Oblique			200	4400	백정옥	윤미선	O
23	2016.05.09	23	35	Chest-RF	0	10MV	3	Oblique			200	4600	윤정민	윤미선	O
24	2016.05.10	24	36	Chest-RF	0	10MV	3	Oblique			200	4800	백정옥	윤미선	O
25	2016.05.11	25	37	Chest-RF	0	10MV	3	Oblique			200	5000	윤정민	윤미선	O
26	2016.05.12	26	38	Chest-RF2	0	10MV	3	Oblique			200	5200	백정옥	윤미선	O
27	2016.05.13	27	39	Chest-RF2	0	10MV	3	Oblique			200	5400	백정옥	윤미선	O
28	2016.05.16	28	42	Chest-RF2	0	10MV	3	Oblique			200	5600	백정옥	윤미선	O

While EP chemo and Chest Radiation, WBC 900 /uL, ANC 200/uL

1. Filgrastim
2. Pegfilgrastim
3. Dose reduction or delay of chemo
4. All of above

G-CSF

Filgrastim (half-life 3~4 hrs)

- Neutropenia
  - Start < 500 /uL, continue while < 1,000 /uL
- Febrile Neutropenia
  - Start < 1,000 /uL continue while < 3,000 /uL

Pegfilgrastim (half-life : 15~80 hrs)

- For Prophylaxis of High risk of FN (>20%)

VOLUME 33 · NUMBER 28 · OCTOBER 1 2015

JOURNAL OF CLINICAL ONCOLOGY

ASCO SPECIAL ARTICLE

Recommendations for the Use of WBC Growth Factors: American Society of Clinical Oncology Clinical Practice Guideline Update

Primary prophylaxis of Febrile Neutropenia (FN)

- 20% or higher risk for FN on the basis of patient, disease and treatment related factors

Secondary prophylaxis of FN

- G-CSF for Pts with FN from previous cycle of Chemo
- Alternative choice : Dose reduction or Delay

Neutropenia

- G-CSF should NOT be routinely used in afebrile and in FN.
- FN : G-CSF should be considered for high risk for infection associated complications or poor prognostic factors

J Clin Oncol. 1995 Jul;13(7):1632-41.

Chemoradiotherapy with or without granulocyte-
treatment of limited-stage small-cell lung cancer
Southwest Oncology Group.

Bunn PA Jr[1], Crowley J, Kelly K, Hazuka MB, Beasley K, Upchurch C, Livingsto

Author information

Erratum in
J Clin Oncol 1995 Nov;13(11):2860.

CLINICAL QUESTION 7

Should CSFs be avoided in patients receiving concomitant chemotherapy and radiation therapy?

Recommendation 7

CSFs should be avoided in patients receiving concomitant chemotherapy and radiation therapy, particularly involving the mediastinum. In the absence of chemotherapy, therapeutic use of CSFs may be considered in patients receiving radiation therapy alone if prolonged delays secondary to neutropenia are expected. (Type: evidence based. Evidence quality: high. Strength of recommendation: strong.)

Abstract

PURPOSE: This phase III randomized trial was designed to determine if granulocyte-macrophage colony-stimulating factor (GM-CSF) reduces the hematologic toxicity and morbidity induced by chemoradiotherapy in limited-stage small-cell lung cancer (SCLC).

METHODS: This multicenter prospective trial randomized 230 patients to receive chemotherapy and radiotherapy (RT) with or without GM-CSF given on days 4 to 18 of each of six cycles. The primary end point was hematologic toxicity. Secondary end points included the following: nonhematologic toxicities; days of (1) fever, (2) antibiotics, (3) hospitalization, and (4) infection; number of transfusions; drug doses delivered; and response rates and survival.

RESULTS: There was a statistically significant increase in the frequency and duration of life-threatening thrombocytopenia ($P < .001$) in patients randomized to GM-CSF. GM-CSF patients had significantly more toxic deaths ($P < .01$), more nonhematologic toxicities, more days in hospital, a higher incidence of intravenous (IV) antibiotic usage, and more transfusions. Patients randomized to GM-CSF had higher WBC and neutrophil nadirs ($P < .01$), but no significant difference in the frequency of grade 4 leukopenia or neutropenia. Patients randomized to GM-CSF had a lower complete response rate (36% v 44%), but the differences were not significant ($P = .29$). There were no significant differences in survival (median, 14 months on GM-CSF and 17 months on no GM-CSF; $P = .15$).

CONCLUSION: GM-CSF, as delivered in this study, should not be included with concurrent chemoradiotherapy treatment programs for limited-stage SCLC. The simultaneous use of hematopoietic colony-stimulating factors (CSFs) and chemoradiotherapy should be performed only in experimental settings. Chemoradiotherapy programs with cisplatin and etoposide ([VP-16] PE) and simultaneous chest RT produce grade 4 neutropenia and thrombocytopenia in a small-enough proportion of patients that prophylactic hematopoietic growth factors are clinically unnecessary.

While EP chemo and Chest Radiation, WBC 900 /uL, ANC 200/uL

1. Filgrastim
2. Pegfilgrastim
3. Dose reduction or delay of chemo
4. All of above

PRINCIPLES OF SYSTEMIC THERAPY*

Systemic therapy as primary or adjuvant therapy:

- Limited stage (maximum of 4–6 cycles):
  - Cisplatin 75 mg/m² day 1 and etoposide 100 mg/m² days 1, 2, 3[1]
  - Cisplatin 25 mg/m² days 1, 2, 3 and etoposide 100 mg/m² days 1, 2, 3[1]
  - Cisplatin 60 mg/m² day 1 and etoposide 120 mg/m² days 1, 2, 3[2]
  - Carboplatin AUC 5–6 day 1 and etoposide 100 mg/m² days 1, 2, 3[3]
  - During systemic therapy + RT, cisplatin/etoposide is recommended (category 1).
  - The use of myeloid growth factors is not recommended during concurrent systemic therapy plus radiotherapy (category 1 for not using GM-CSF).[4]
- Extensive stage (maximum of 4–6 cycles):
  - Carboplatin AUC 5 day 1 and etoposide 100 mg/m² days 1, 2, 3 and atezolizumab 1,200 mg day 1 every 21 days x 4 cycles followed by maintenance atezolizumab 1,200 mg (category 1, preferred)§,[5]
  - Carboplatin AUC 5–6 day 1 and etoposide 100 mg/m² days 1, 2, 3†,[6]
  - Cisplatin 75 mg/m² day 1 and etoposide 100 mg/m² days 1, 2, 3†,[7]
  - Cisplatin 80 mg/m² day 1 and etoposide 80 mg/m² days 1, 2, 3†,[8]
  - Cisplatin 25 mg/m² days 1, 2, 3 and etoposide 100 mg/m² days 1, 2, 3†,[9]
  - Carboplatin AUC 5 day 1 and irinotecan 50 mg/m² days 1, 8, 15†,[10]
  - Cisplatin 60 mg/m² day 1 and irinotecan 60 mg/m² days 1, 8, 15†,[11]
  - Cisplatin 30 mg/m² days 1, 8 and irinotecan 65 mg/m² days 1, 8†,[12]

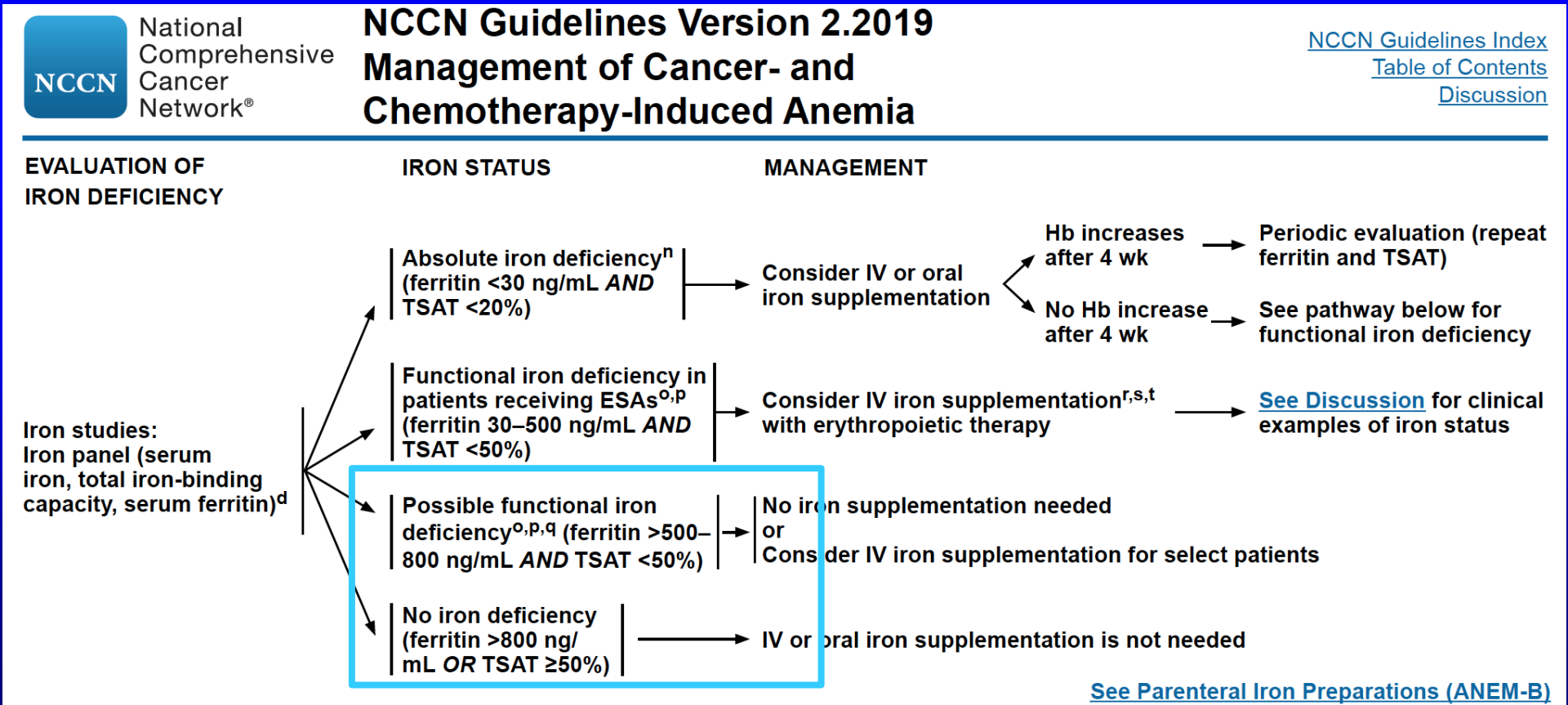
Subsequent systemic therapy:‡

- Clinical trial preferred.
- Relapse ≤6 mo, PS 0-2:
  - Topotecan PO or IV[13-15]
  - Irinotecan[16]
  - Paclitaxel[17,18]
  - Docetaxel[19]
  - Temozolomide[20,21]
  - Nivolumab ± ipilimumab[22,23]
  - Pembrolizumab[24]
  - Vinorelbine[25,26]
  - Oral etoposide[27,28]
  - Gemcitabine[29,30]
  - Cyclophosphamide/doxorubicin/vincristine (CAV)[12]
  - Bendamustine (category 2B)[31]
- Relapse >6 mo: original regimen[32,33§]

Consider dose reduction or growth factor support for patients with PS 2

Dizziness, Hb 8.5g/dL While EP chemo and Chest RT

Iron : 100 (60~160 ug/dL) TIBC : 300 (250~430 ug/dL)
TSAT (% Transferrin Saturation) : 30 %
Ferritin : 600 ng/mL (5~270 ng/mL)



COMPARISON OF RISKS AND GOALS OF ESA USE VERSUS RBC TRANSFUSION[h]

Discuss the following risks and goals with patients when considering anemia treatment options:

	ESA in the Cancer Setting	RBC Transfusion
Risks	• Increased thrombotic events • Possible decreased survival • Time to tumor progression shortened	• Transfusion reactions (eg, hemolytic, febrile, non-hemolytic, lung injury) • Transfusion-associated circulatory overload (TACO) • Virus transmission (eg, hepatitis, HIV) • Bacterial contamination • Iron overload • Increased thrombotic events • Possible decreased survival • Alloimmunization • Increased risk of poor response to future platelet transfusions due to HLA immunization
Goals	• Transfusion avoidance • Gradual improvement in anemia-related symptoms	• Rapid increase of Hb and hematocrit levels • Rapid improvement in anemia-related symptoms

See Erythropoietic Therapy - Dosing, Titration, and Adverse Effects (ANEM-A)

ASCO special article

Management of Cancer-Associated Anemia With Erythropoiesis-Stimulating Agents: ASCO/ASH Clinical Practice Guideline Update

RECOMMENDATIONS ESAs (including biosimilars) may be offered to patients with chemotherapy-associated anemia whose cancer treatment is not curative in intent and whose hemoglobin has declined to < 10 g/dL. RBC transfusion is also an option. With the exception of selected patients with myelodysplastic syndromes, ESAs should not be offered to most patients with nonchemotherapy-associated anemia. During ESA treatment, hemoglobin may be increased to the lowest concentration needed to avoid transfusions. Iron replacement may be used to improve hemoglobin response and reduce RBC transfusions for patients receiving ESA with or without iron deficiency. Additional information is available at www.asco.org/supportive-care-guidelines and www.hematology.org/guidelines.

J Clin Oncol 37:1336-1351. © 2019 by American Society of Clinical Oncology

Recommendation 1.2. ESAs should not be offered to patients with chemotherapy-associated anemia whose cancer treatment is curative in intent (Type: evidence based; Evidence quality: intermediate; Strength of recommendation: strong).

Recommendation 6. ESAs increase the risk of thromboembolism, and clinicians should carefully weigh the risks of thromboembolism and use caution and clinical judgment when considering use of these agents (Type: evidence based; Evidence quality: high; Strength of recommendation: strong).

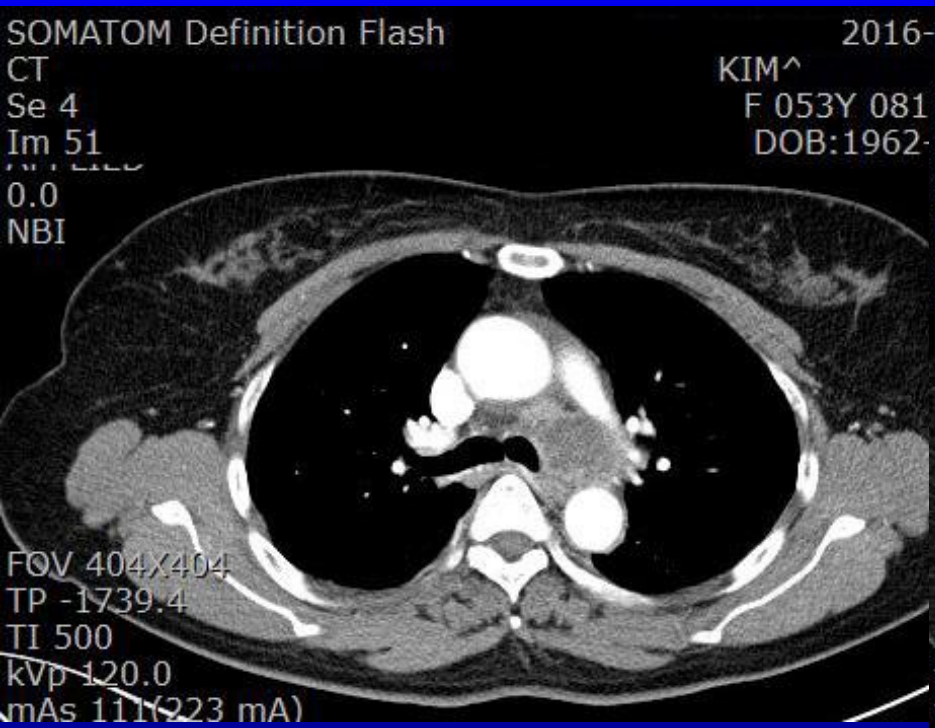
Recommendation 9. ESAs should be discontinued in patients who do not respond within 6 to 8 weeks. Patients who do not respond to ESA treatment should be reevaluated for underlying tumor progression, iron deficiency, or other etiologies for anemia (Type: informal consensus; Evidence quality: intermediate; Strength of recommendation: strong).

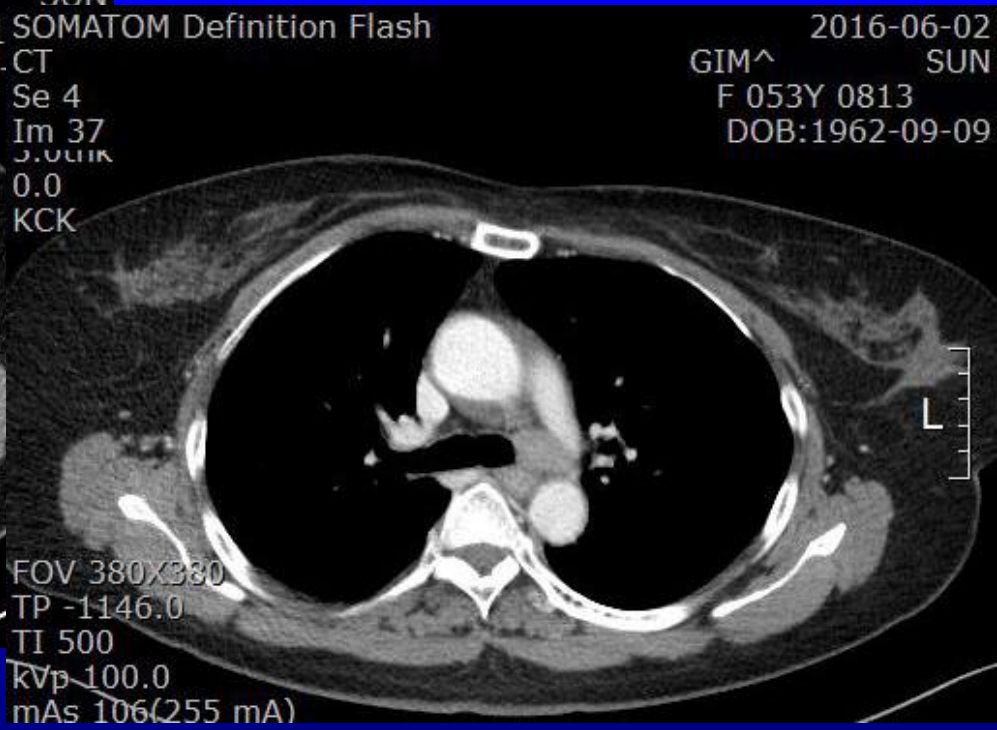
Dizziness, Hb 8.5g/dL
While EP chemo and Chest RT

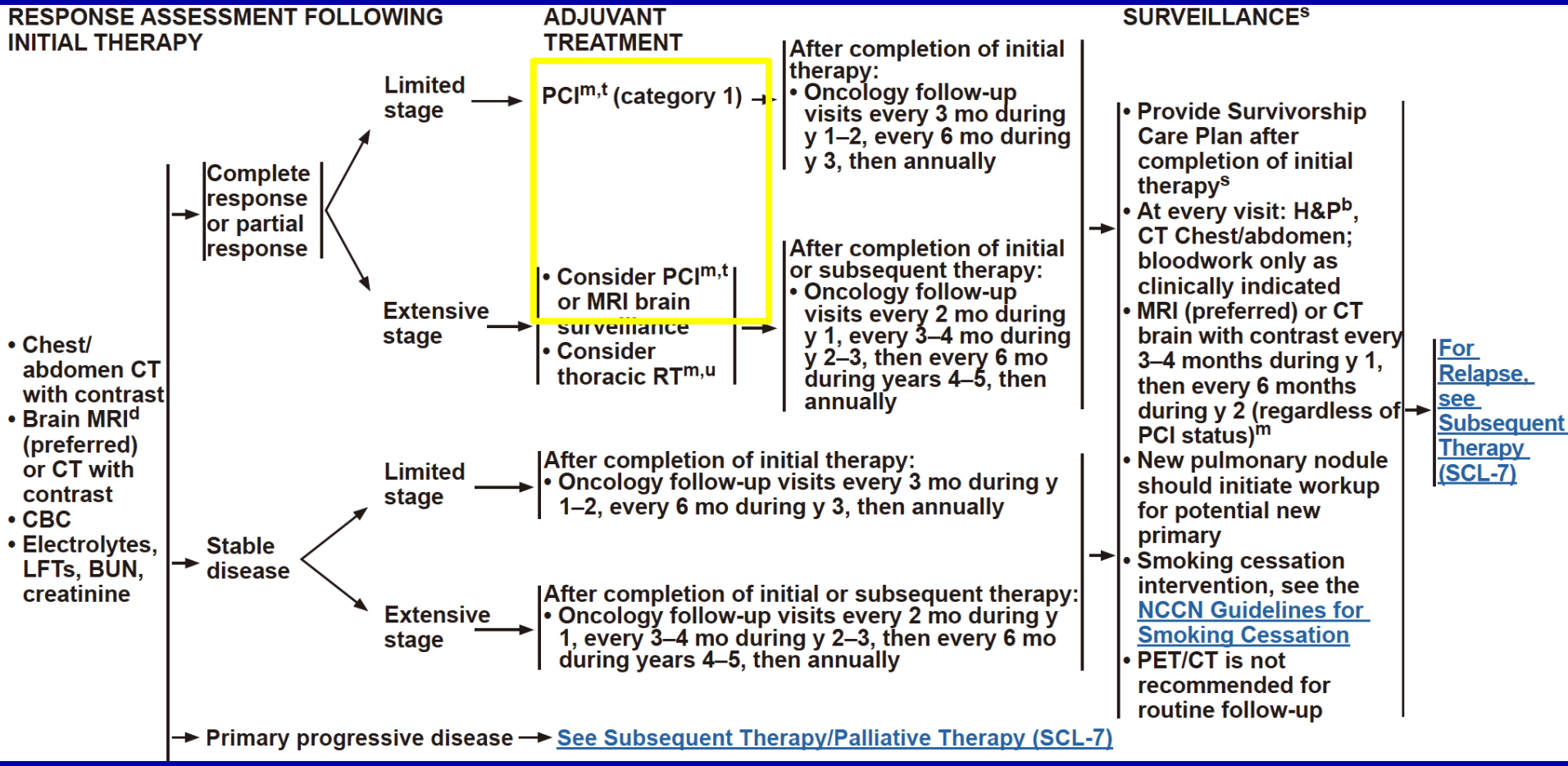
Iron : 100 (60~160 ug/dL) TIBC : 300 (250~430 ug/dL)
TSAT (% Transferrin Saturation) : 30 %
Ferritin : 600 ng/mL (5~270 ng/mL)

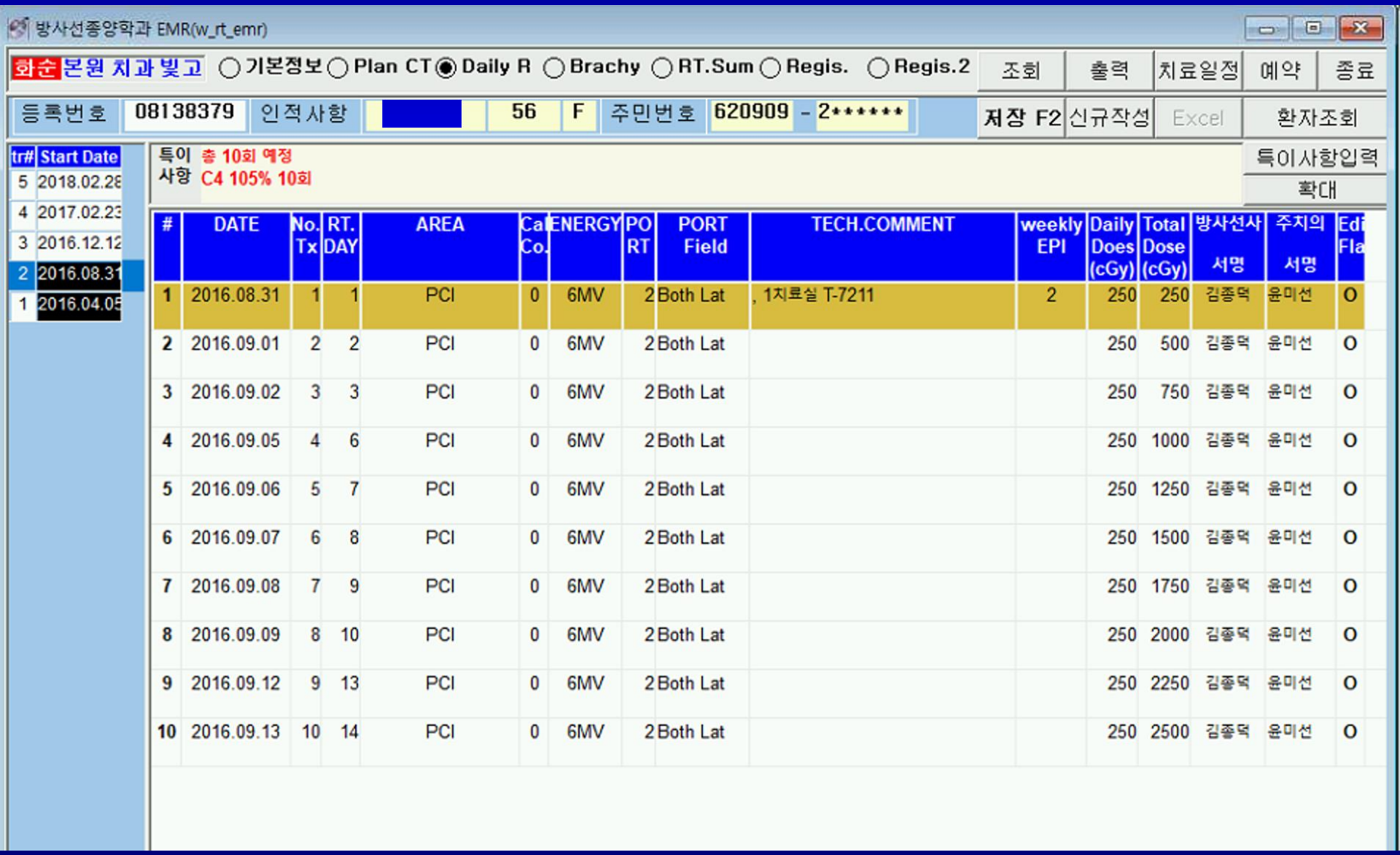
1. Epoetin or Darbepoetin
2. Blood transfusion
3. Iron supplementation
4. All of above

Case SCLC, LD, 53/F
after EP6 & chest Radiation
Now what would you do?






RESPONSE ASSESSMENT FOLLOWING INITIAL THERAPY
ADJUVANT TREATMENT
SURVEILLANCE[s]
• Chest/ abdomen CT with contrast
• Brain MRI[d] (preferred) or CT with contrast
• CBC
• Electrolytes, LFTs, BUN, creatinine
Complete response or partial response
Limited stage
PCI[m,t] (category 1)
After completion of initial therapy:
• Oncology follow-up visits every 3 mo during y 1–2, every 6 mo during y 3, then annually
Extensive stage
• Consider PCI[m,t] or MRI brain surveillance
• Consider thoracic RT[m,u]
After completion of initial or subsequent therapy:
• Oncology follow-up visits every 2 mo during y 1, every 3–4 mo during y 2–3, then every 6 mo during years 4–5, then annually
Stable disease
Limited stage
After completion of initial therapy:
• Oncology follow-up visits every 3 mo during y 1–2, every 6 mo during y 3, then annually
Extensive stage
After completion of initial or subsequent therapy:
• Oncology follow-up visits every 2 mo during y 1, every 3–4 mo during y 2–3, then every 6 mo during years 4–5, then annually
• Provide Survivorship Care Plan after completion of initial therapy[s]
• At every visit: H&P[b], CT Chest/abdomen; bloodwork only as clinically indicated
• MRI (preferred) or CT brain with contrast every 3–4 months during y 1, then every 6 months during y 2 (regardless of PCI status)[m]
• New pulmonary nodule should initiate workup for potential new primary
• Smoking cessation intervention, see the NCCN Guidelines for Smoking Cessation
• PET/CT is not recommended for routine follow-up
For Relapse, see Subsequent Therapy (SCL-7)
Primary progressive disease
See Subsequent Therapy/Palliative Therapy (SCL-7)



방사선종양학과 EMR(w_rt_emr)

화순본원 치과빛고 ◯기본정보 ◯Plan CT ◉Daily R ◯Brachy ◯RT.Sum ◯Regis. ◯Regis.2 | 조회 | 출력 | 치료일정 | 예약 | 종료

등록번호 08138379 | 인적사항 [redacted] | 56 | F | 주민번호 620909 - 2****** | 저장 F2 | 신규작성 | Excel | 환자조회

tr#	Start Date
5	2018.02.28
4	2017.02.23
3	2016.12.12
2	2016.08.31
1	2016.04.05

특이사항 총 10회 예정
C4 105% 10회

특이사항입력 | 확대

#	DATE	No. Tx	RT. DAY	AREA	Cal Co.	ENERGY	PO RT	PORT Field	TECH.COMMENT	weekly EPI	Daily Does (cGy)	Total Dose (cGy)	방사선사 서명	주치의 서명	Edi Fla
1	2016.08.31	1	1	PCI	0	6MV	2	Both Lat	, 1치료실 T-7211	2	250	250	김종덕	윤미선	O
2	2016.09.01	2	2	PCI	0	6MV	2	Both Lat			250	500	김종덕	윤미선	O
3	2016.09.02	3	3	PCI	0	6MV	2	Both Lat			250	750	김종덕	윤미선	O
4	2016.09.05	4	6	PCI	0	6MV	2	Both Lat			250	1000	김종덕	윤미선	O
5	2016.09.06	5	7	PCI	0	6MV	2	Both Lat			250	1250	김종덕	윤미선	O
6	2016.09.07	6	8	PCI	0	6MV	2	Both Lat			250	1500	김종덕	윤미선	O
7	2016.09.08	7	9	PCI	0	6MV	2	Both Lat			250	1750	김종덕	윤미선	O
8	2016.09.09	8	10	PCI	0	6MV	2	Both Lat			250	2000	김종덕	윤미선	O
9	2016.09.12	9	13	PCI	0	6MV	2	Both Lat			250	2250	김종덕	윤미선	O
10	2016.09.13	10	14	PCI	0	6MV	2	Both Lat			250	2500	김종덕	윤미선	O

Prophylactic Cranial Irradiation (PCI):

25 Gy, 10 fx.

LD : PCI decreases BM and increases OS

ED : PCI decreases BM

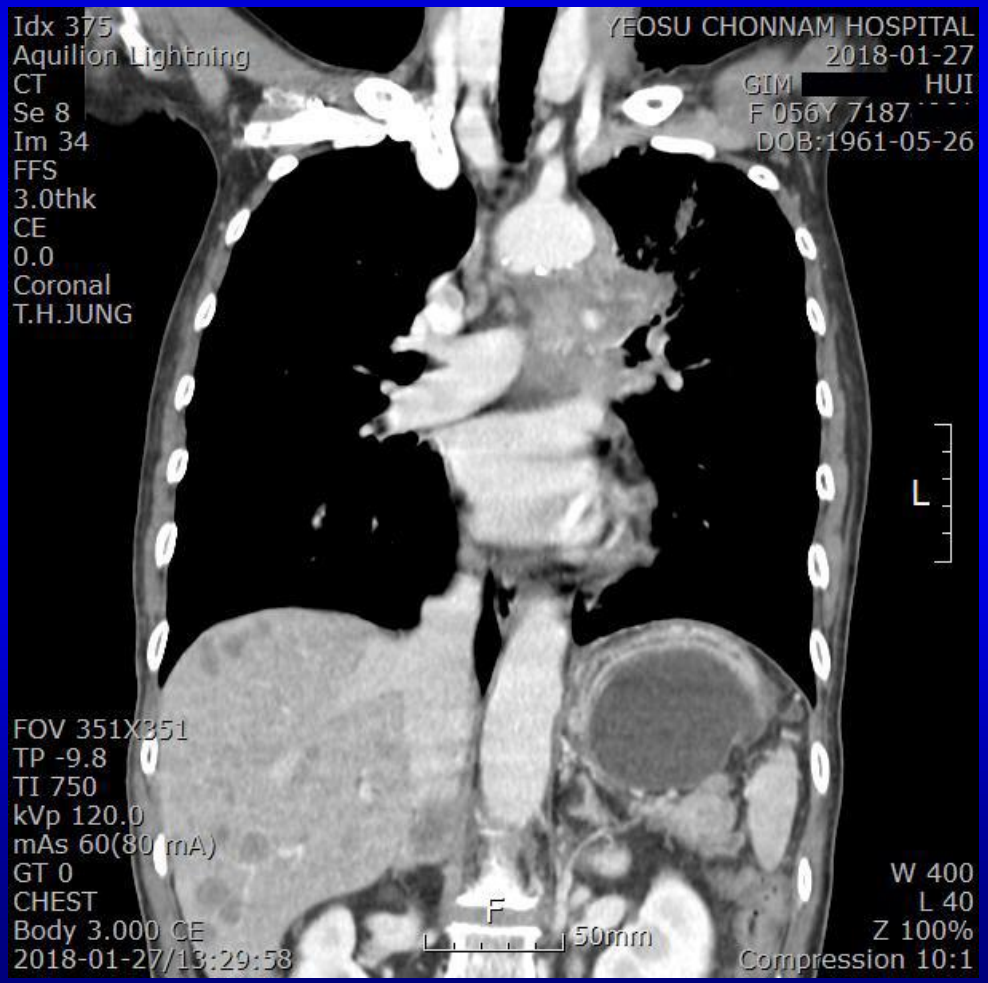
Neurocognitive Toxicity :

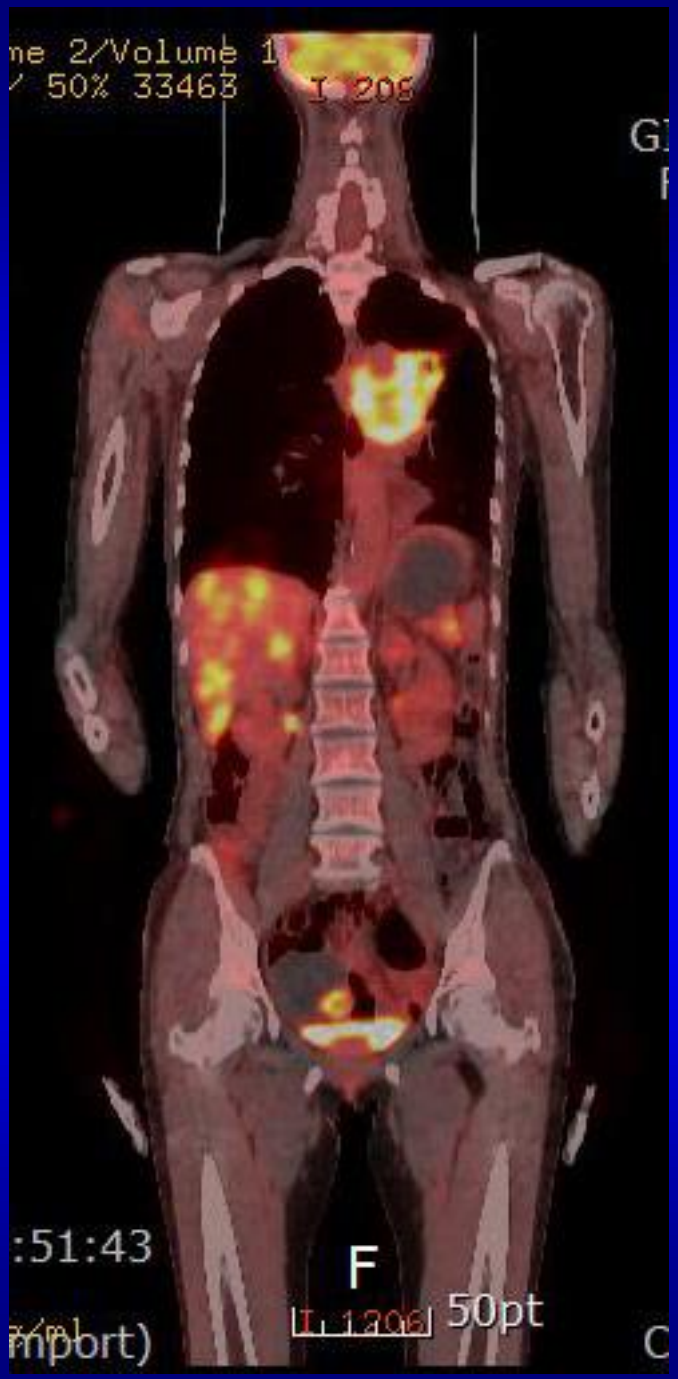
- Old age and High dose are Predictive factors
- Concurrent Chemo and high dose RT should be avoided.
- Consider adding memantine during and after RT

5 Cases

- 1/5. Small Cell Ca. Limited Stage
  - Neutropenia, Anemia, PCI
- 2/5. Small Cell Ca. Extensive Stage
  - Safety guideline, Antiemetics
- 3/5. Squamous Cell Ca. IV
  - Extravasation
- 4/5. Adenocarcinoma. IV
  - Response evaluation
- 5/5. Adenocarcinoma. IV
  - Adding Local Treatment

56/F, SCLC, ED


Idx 375
Aquilion Lightning
CT
Se 8
Im 34
FFS
3.0thk
CE
0.0
Coronal
T.H.JUNG
YEOSU CHONNAM HOSPITAL
2018-01-27
GIM [redacted] HUI
F 056Y 7187
DOB:1961-05-26
L
FOV 351X351
TP -9.8
TI 750
kVp 120.0
mAs 60(80 mA)
GT 0
CHEST
Body 3.000 CE
2018-01-27/13:29:58
F
50mm
W 400
L 40
Z 100%
Compression 10:1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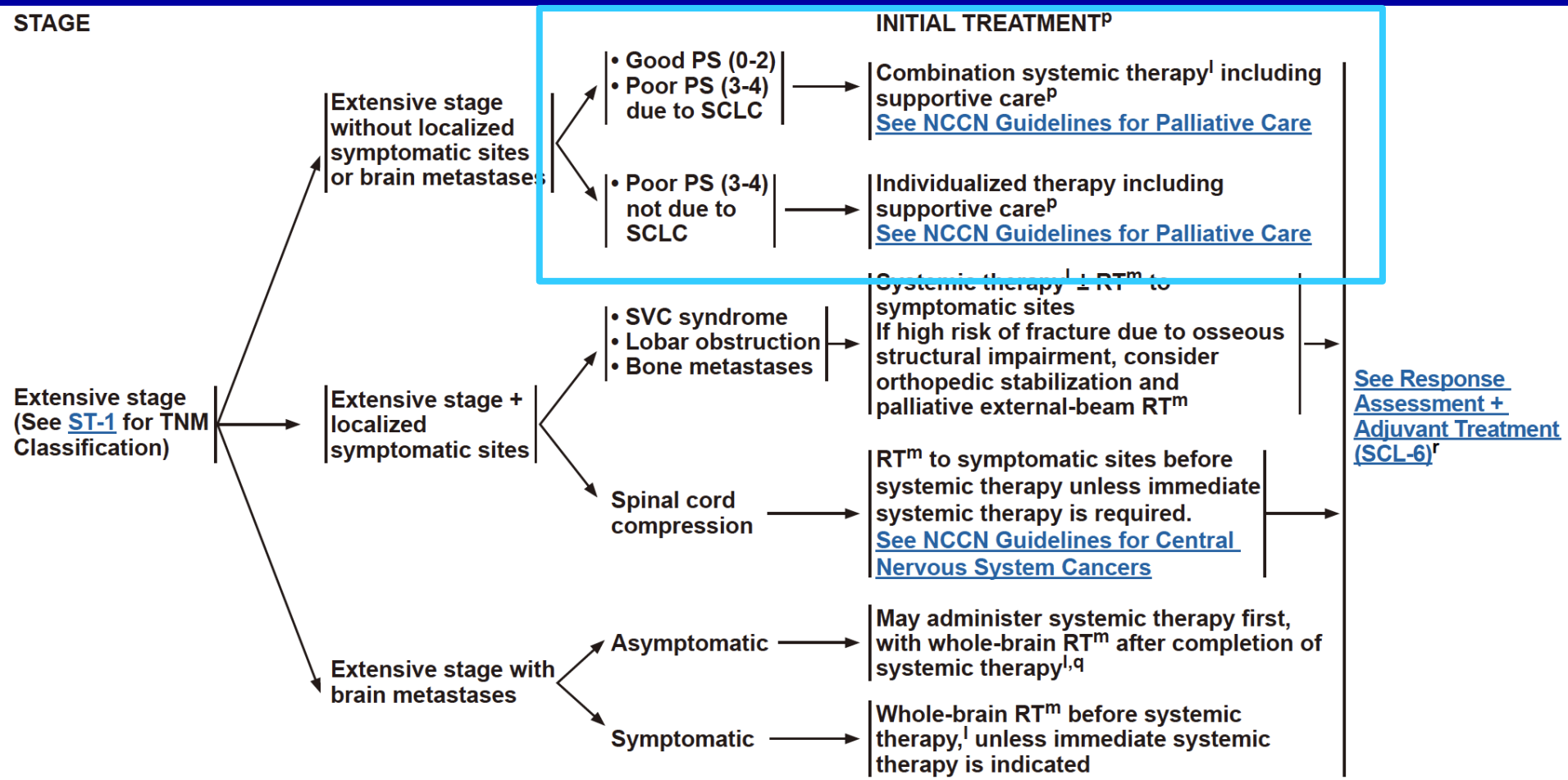
C

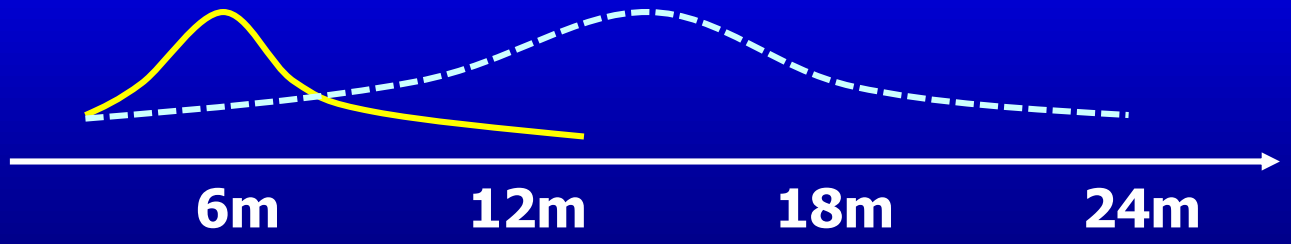

STAGE
INITIAL TREATMENT[p]
Extensive stage (See ST-1 for TNM Classification)
Extensive stage without localized symptomatic sites or brain metastases
• Good PS (0-2)
• Poor PS (3-4) due to SCLC
Combination systemic therapy[l] including supportive care[p]
See NCCN Guidelines for Palliative Care
• Poor PS (3-4) not due to SCLC
Individualized therapy including supportive care[p]
See NCCN Guidelines for Palliative Care
Extensive stage + localized symptomatic sites
• SVC syndrome
• Lobar obstruction
• Bone metastases
symptomatic sites
If high risk of fracture due to osseous structural impairment, consider orthopedic stabilization and palliative external-beam RT[m]
Spinal cord compression
RT[m] to symptomatic sites before systemic therapy unless immediate systemic therapy is required.
See NCCN Guidelines for Central Nervous System Cancers
Extensive stage with brain metastases
Asymptomatic
May administer systemic therapy first, with whole-brain RT[m] after completion of systemic therapy[l,q]
Symptomatic
Whole-brain RT[m] before systemic therapy,[l] unless immediate systemic therapy is indicated
See Response Assessment + Adjuvant Treatment (SCL-6)[r]

항암치료 개시 전에 필요한 사항은 ?

1. Explain the Patients Illness
2. Explain the Natural Course, Prognosis
3. Explain the Purpose of Treatment
4. Get the Informed Consent
5. All of above

Checklist before Chemotherapy

- Patient's Illness & Burden
  - Histology, Stage, Molecular profile, Performance status
  - Natural course : Expected Symptoms & Survival
  - Comorbidities :
    COPD, HTN, IHD, DM, Neurologic ds,
    Liver, Kidney, Depression and Dental problem
  - Economic status, Private insurance
  - Attitude and Expectations of Patients and Family



Checklist before Chemotherapy

- Patient's Illness & Burden
  - Histology, Stage, Molecular profile, Performance status
  - Natural course : Expected Symptoms & Survival
  - Comorbidities :
    COPD, HTN, IHD, DM, Neurologic ds,
    Liver, Kidney, Depression and Dental problem
  - Economic status, Private insurance
  - Attitude and Expectations of Patients and Family

- Preparation and Consultation
  - Consider Chemo-port insertion
  - Consult to Specialties, + Psychiatry, Dent, Social workers.

ASCO Special Article

2016 Updated American Society of Clinical Oncology/Oncology Nursing Society Chemotherapy Administration Safety Standards, Including Standards for Pediatric Oncology

J Oncol Practice 12(12), 2016

1. Creating Safe Environment
   - Qualifications of clinical staff, Education programs
2. Treatment Planning, Consent, Education
   - Information to Patients (Informed consent)
3. Ordering, Preparing, Dispensing and Administration
   - Approval by Independent practitioners
   - Essential Elements of Orders, Drug Labels
4. Monitoring after chemo, Toxicity, Complications

Information for Patients

- Diagnosis – Cancer type, Stage, Natural course
- Cure or Palliation (Prolong Life & Reduce Symptoms)
- Drug Name, Schedule, Duration, Drugs or Food interactions
- Potential AEs, short-term or long-term AEs
- Sx or AEs requiring report or seek immediate attention
- Sx or AEs requiring immediate discontinuation
- Storage, Handling medications in the Home
- Follow-up plans including laboratory, imaging studies
- Contact information of health care settings

1. 환자의 현재 상태

항암치료 종류	고식적 항암 치료		
진 단 명	기관지 또는 폐 상엽의 악성 신생물, 왼쪽		
시 행 예 정 일	2018년 02월 15일		
담당의사/담당교수	임채준 / 김영철		
과거병력 (질병·상해 전력)	◉유 ○무 ○미상	알레르기	○유 ◉무 ○미상
특이체질	○유 ◉무 ○미상	당뇨병	○유 ◉무 ○미상
고 · 저혈압	◉유 ○무 ○미상	마약사고	○유 ◉무 ○미상
복용약물	○유 ◉무 ○미상	기도이상유무	
흡연여부	○유 ◉무 ○미상	출혈소인	
심장질환(심근경색증 등)	○유 ◉무 ○미상	호흡기질환(기침,가래 등)	
신장질환(부종 등)	○유 ◉무 ○미상	기타	

1. 항암화학치료의 목적 및 효과

환자 분의 진단명은 (☑ 소세포성 폐암/ ☐ 비소세포성 폐암 이고, 치료 목적은 (☐ 선
☐ 고식 / ☐ 근치적 / ☐ 방사선-항암 병합 요법) 항암 치료에 해당됩니다. 일반적으로
종괴 크기가 줄어들 가능성 30~40%, 정지 상태에 있을 가능성 30%, 악화될 가능성 3

2. 항암화학치료 과정, 방법, 추정소요시간 및 성공가능성

항암제 사용은 일정한 주기(3) 주 로 반복되며, 2주기마다 항암 화학요법의 반
(CT)등으로 확인하게 됩니다. 병변이 악화되지 않으면, 통상적으로 4주기 내지 6주기
다.

환자분에게 투여 예정인 약제는 (① Etoposide /② Cisplatin), 용법은 (
용량은 (① /②)이며, 환자 상태에 따라 용량이나 일정
경우에 따라서 방사선 치료를 병행할 수 있습니다.

- 추정 소요 시간 : ○경구(해당없음) ◉정맥주사
- 성공의 가능성은 (○99%이상 ○90%이상 ○80%이상 ○60%이상 ○50%이
다를 수 있음)입니다.

3. 항암화학치료 과정 중·후 발생할 수 있는 합병증 및 후유증

현재의 항암제는 암세포에 주로 작용 하지만 동시에 정상세포(골수장관 골수 등)를 손상 가능하여 이에 따른 다양한 합병증이 나타날 수 있습니다. 전신 쇠약감, 식욕 부진, 오심, 구토, 설사, 변비, 구내염, 백혈구 감소(패혈증), 혈소판 감소 출혈, 알레르기성 반응(주사 중), 탈모, 과색소 침착, 손발 저림, 신경통, 근육통, 청력 감소, 간 장애, 신장장애, 전해질 장애, 고혈압 및 심장기능 이상, 폐섬유증과 폐렴, 전신경련, 사지마비, 불임, 부종, 사망 등이 있습니다.

4. 항암화학치료 이외의 시행 가능한 다른 치료방법

항암치료를 하지 않는다면 통증 조절, 수액 및 영양 공급 등
과는 없습니다.

5. 치료를 하지 않을 경우의 예후

환자의 전신 상태에 따라 일반적인 경과에서 벗어나는 경우도

소세포암 : 일반적으로 치료를 하지 않는 경우 2-3 개월 이내

비소세포암 : 치료를 하지 않는 경우 6개월 이내에 대부분 급
특히 뇌전이가 있는 경우엔 1-2개월 이내에 사

6. 항암화학 치료 과정 중, 후 환자가 주의할 사항

항암 치료 중에는 개인 위생관리가 무엇보다도 중요하
어지는 시기에는 손을 자주 씻고,음식을 익혀먹는 등 위
동을 하는 것은 빠른 회복에 도움이 될 수 있습니다.매일
는 것이 도움이 되지만 가벼운 산책 이외의 무리한 운동
퇴원한 경우에 고열(38도 이상), 오한, 기침,설사 등의 증
식물을 섭취하기 어려운 경우에는 외래예약일까지 기다
또는 문의바랍니다.

[환자에 대한 의사의 설명 확인 및 동의 조항]

나는 다음의 사항을 확인하고 동의합니다.

① 나(또는 환자)에 대한 검사(치료)의 목적 및 효과, 검사(치료)의 과정 및 방법, 검사(치료) 과정 중 발생할 수 있는 문제점 검사(치료) 후 발생 가능한 합병증 및 후유증, 검사 이외의 시행 가능한 다른 치료방법, 치료를 하지 않을 경우의 예후 등에 대한 설명을 의사로부터 듣고 이해하였습니다.

② 본 검사(치료)로 인해 불가항력으로 야기될 수 있는 정신적, 신체적 변화나 환자의 특이체질로 인한 우발적 사고가 일어날 수도 있다는 것을 충분히 이해하였습니다.

③ 따라서 검사(치료)에 적극적으로 협력할 것을 서명으로 서약하며 다음 사항을 성실히 고지하며 이에 따른 의학적 처리를 주치의 판단에 위임하여 상기 검사를 하는데 동의합니다.

④ 검사(치료)결과에 대하여 병원이나 의사에게 책임을 묻지 않을 것을 서약합니다.

⑤ 나(또는 환자)는 검사(치료) 중 예정된 검사(치료)에 변동사항이 생길 경우 보호자에게 설명할 수 있음을 충분히 이해하였습니다.

⑥ 본 동의서의 정보를 충분히 이해했으며, 본인의 자발적인 이해에 근거하여 이 동의서에 서명합니다.

2018 년 02 월 15 일 17 시 58 분

환 자	성 명	[redacted]	(서명)
	생년월일	610526	
	연 락 처	[redacted]	
	주 소	[redacted]	

☞ **보호자(대리인)가 서명하게 된 사유 (해당 사항에 체크하세요)**

○환자의 신체·정신적 장애로 의사결정 불가 ○환자가 미성년자임(만 19세 미만)
○환자의 심신에 중대한 영향이 있어 보호자가 원함 ○환자가 특정인에게 위임함(위임계약서 필요)
○기타

보호자(대리인) (환자와의 관계 :)	성 명	강 [redacted]	(서명)
	생년월일	53 1.7	
	연 락 처	010 · [redacted]	
담당의사(설명의사)	성 명	임채준	(서명)

medications, drug-drug and drug-food interactions, and plan for missed doses.[29]

2.3.4. Potential long-term and short-term adverse effects of therapy, including infertility risks for appropriate patients.

2.3.5. Symptoms or adverse effects that require the patient to contact the health care setting or to seek immediate attention.

2.3.6. Symptoms or events that require immediate discontinuation of oral or other self-administered treatments.[30]

2.3.7. Procedures for handling medications in the home, including storage, safe handling, and management of unused medication.

2.3.8. Procedures for handling body secretions and waste in the home.

2.3.9. Follow-up plans, including laboratory and **provider** visits.

2.3.10. Contact information for the health care setting, with availability and instructions on when and who to call.

2.3.11. The missed appointment policy of the health care setting and expectations for rescheduling or cancelling.

2.4. Education includes family, caregivers, or others on the basis of the patient's ability to assume responsibility for managing therapy. Educational activities will be performed on the basis of the patient's learning needs, abilities, preferences, and readiness to learn.

Domain 3: Ordering, Preparing, Dispensing, and Administering Chemotherapy

3.1. The health care setting defines standard chemotherapy regimens by diagnosis with references.[31,32]

3.2. The health care setting verifies institutional review board approval of research regimens.[33]

3.3. **Orders** for chemotherapy are signed manually or by using electronic approval by licensed independent practitioners who are determined to be qualified by the health care setting.

3.4. The health care setting has policy for managing chemotherapy orders that vary from standard regimens. The policy requires a supporting reference and/or authorization by a second licensed independent practitioner.

3.4.1. The rationale for an **exception order** is documented in the medical record.

3.5. The health care setting has policy for chemotherapy orders that ensure:

3.5.1. Verbal orders are not allowed except to hold or stop chemotherapy administration.

3.5.2. New orders or changes to orders, including changes to oral chemotherapy regimens, for example, dose adjustments communicated directly to patients, are documented in the medical record.

3.6. The health care setting uses standardized, regimen-level, preprinted or electronic forms for parenteral chemotherapy.[34-37]

3.7. Chemotherapy orders include at least the following elements:

3.7.1. The patient's name.

3.7.2. A second patient **identifier.**

3.7.3. The date the order is written.

3.7.4. Regimen or protocol name and number.

3.7.5. Cycle number and day, when applicable.

3.7.6. All medications within the order set are listed by using full generic names.

3.7.7. Drug dose is written following standards for abbreviations, trailing zeros, and leading zeros.

3.7.8. The dose calculation, including:

3.7.8.1. The calculation methodology.

3.7.8.2. The variables used to calculate the dose.

3.7.8.3. The frequency at which the variables are re-evaluated.

3.7.8.4. The changes in the values that prompt confirmation of dosing.

3.7.9. Date of administration.

3.7.10. Route of administration.

3.7.11. Allergies.

3.7.12. Supportive care treatments that are appropriate for the regimen, including premedications, hydration, growth factors, and hypersensitivity medications.

3.7.13. Parameters that would require holding or modifying the dose, for example, laboratory values, diagnostic test results, and patient's clinical status.

3.7.14. Sequencing of drug administration, when applicable.

3.7.15. Rate of drug administration, when applicable.

3.7.16. An explanation of time limitation, such as the number of cycles for which the order is valid.

3.8. Prescriptions for oral chemotherapy, whether to be dispensed by the health care setting or another facility, include the following elements[38]:
- 3.8.1. The patient's name.
- 3.8.2. A second patient identifier.
- 3.8.3. Full generic drug name.
- 3.8.4. The date of order.
- 3.8.5. Drug dose following standards for abbreviations, symbols, and dose designations.
- 3.8.6. Includes calculation methodology.
- 3.8.7. Route of administration, special instructions if applicable.
- 3.8.8. Drug quantity to be dispensed.
- 3.8.9. Schedule of administration.
- 3.8.10. Duration of therapy and an explanation of time limitation, such as number of cycles.
- 3.8.11. Number of refills, with zero being the acceptable default value.

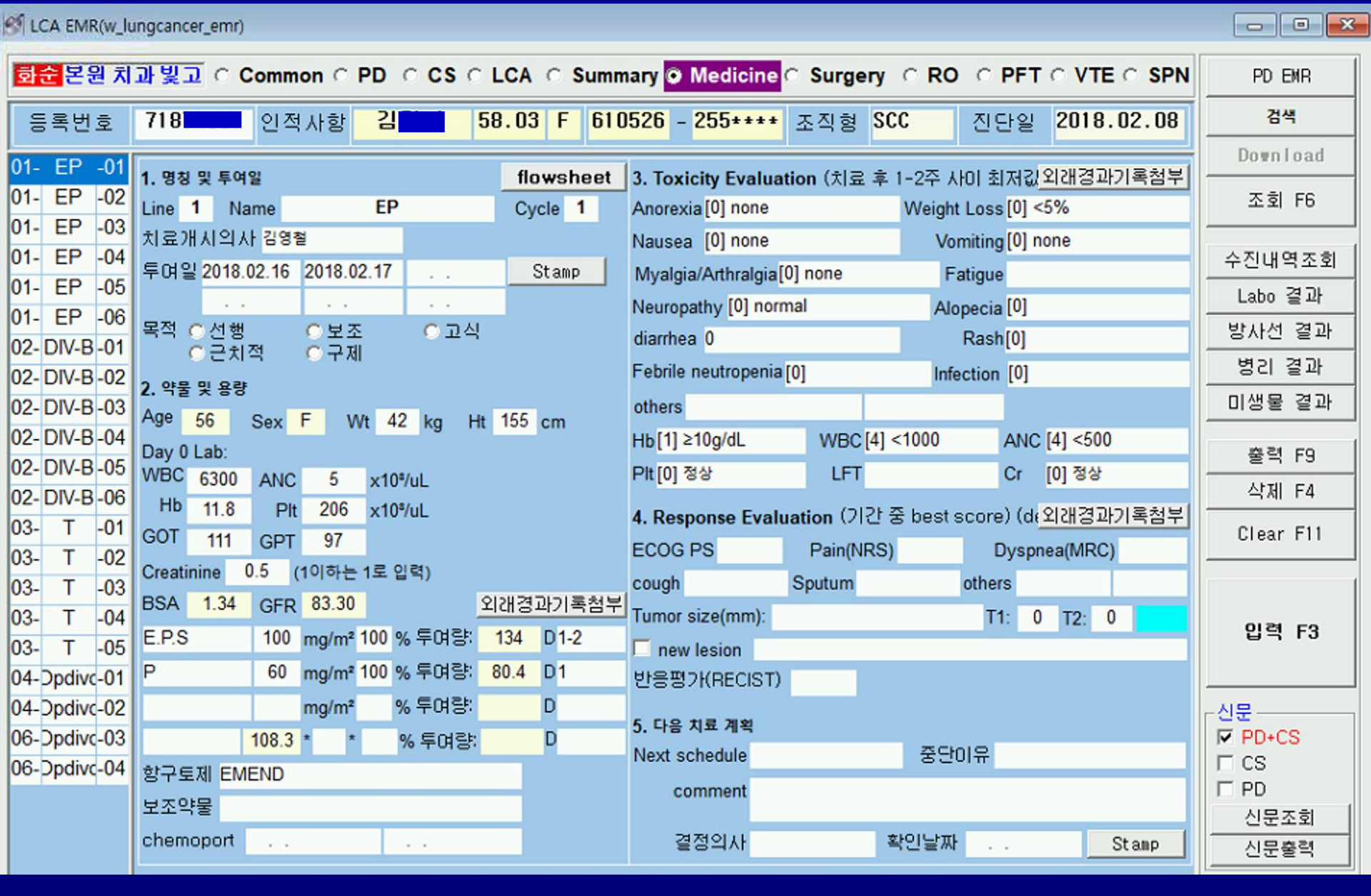
3.9. Chemotherapy is prepared by a licensed pharmacist, pharmacy technician, physician, or registered nurse with documented chemotherapy preparation education, training, and annual competency validation.

3.10. A licensed pharmacist verifies all orders before administration or dispensing of chemotherapy in health care setting that treats pediatric patients age $<$ 18 years.

3.11. A second person—a practitioner or other personnel approved by the health care setting to prepare or administer chemotherapy—performs three **independent verifications**[39]:
- 3.11.1. Before preparation, a second person—a practitioner or other personnel approved by the health care setting to prepare or administer chemotherapy—independently verifies:
  - 3.11.1.1. Two patient identifiers.
  - 3.11.1.2. Drug name.
  - 3.11.1.3. Drug dose.
  - 3.11.1.4. Route of administration.
  - 3.11.1.5. Rate of administration
  - 3.11.1.6. The calculation for dosing, including the variables used in this calculation.
  - 3.11.1.7. Treatment cycle and day of cycle.
- 3.11.2. Upon preparation, a second person approved by the health care setting to prepare **parenteral** chemotherapy verifies:
  - 3.11.2.1. The drug vial(s).
  - 3.11.2.2. Concentration.
  - 3.11.2.3. Drug volume or weight.
  - 3.11.2.4. Diluent type and volume, when applicable.
  - 3.11.2.5. Administration fluid type, volume, and tubing.
- 3.11.3. Before each chemotherapy administration, at least two practitioners approved by the health care setting to administer or prepare chemotherapy verify and document the accuracy of the following elements:
  - 3.11.3.1. Drug name.
  - 3.11.3.2. Drug dose.
  - 3.11.3.3. Infusion volume or drug volume when prepared in a syringe.
  - 3.11.3.4. Rate of administration.
  - 3.11.3.5. Route of administration.
  - 3.11.3.6. Expiration dates and/or times.
  - 3.11.3.7. Appearance and physical integrity of the drugs.
  - 3.11.3.8. Rate set on infusion pump, when used.

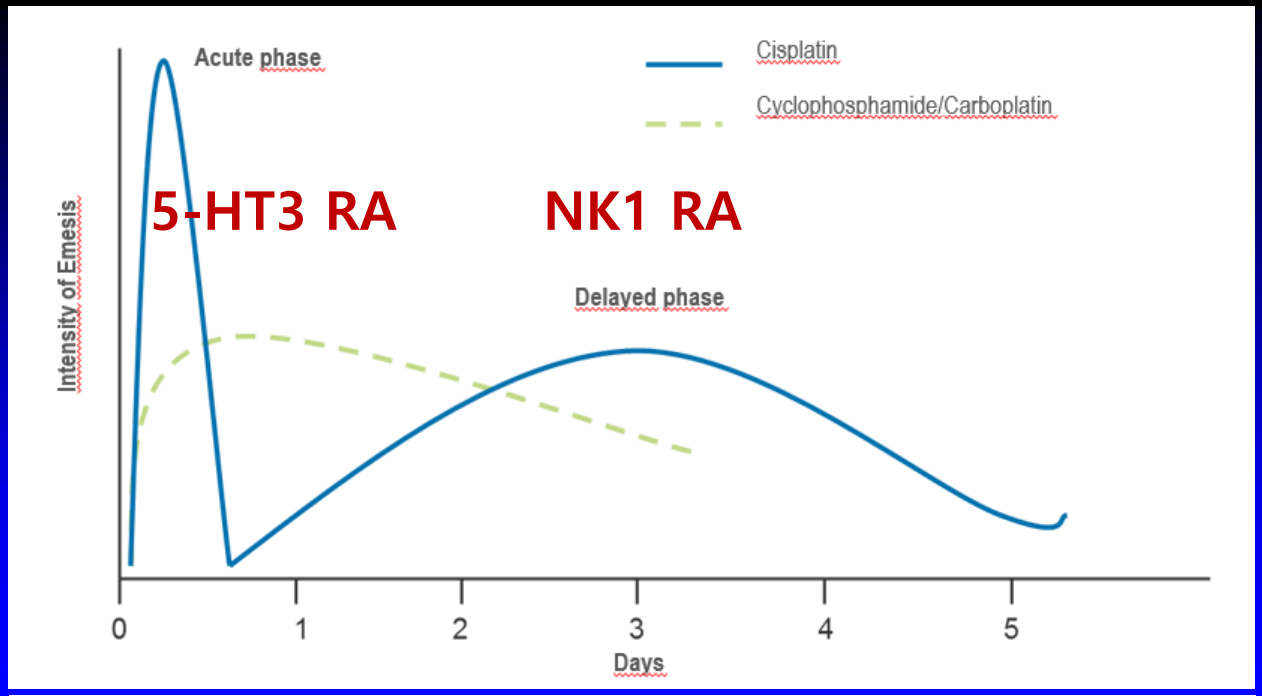
3.12. Chemotherapy drugs are labeled immediately upon preparation, and **labels** include the following 10 elements at a minimum[40]:
- 3.12.1. Patient's name.
- 3.12.2. A second patient identifier.
- 3.12.3. Full generic drug name.
- 3.12.4. Drug dose.
- 3.12.5. Drug administration route.
- 3.12.6. Total volume required to administer the drug.
- 3.12.7. Date the medication is to be administered.
- 3.12.8. Expiration dates and/or times.
- 3.12.9. Sequencing of drug administration, when applicable, and total number of products to be given when medication is provided in divided doses—each product should be labeled with the total number of products to be administered and the individual products sequence within that total grouping, for example, one of five, two of two, etc.
- 3.12.10. A warning or precautionary label or sticker, as applicable, to storage and handling; may be included within the label or on an auxiliary label.

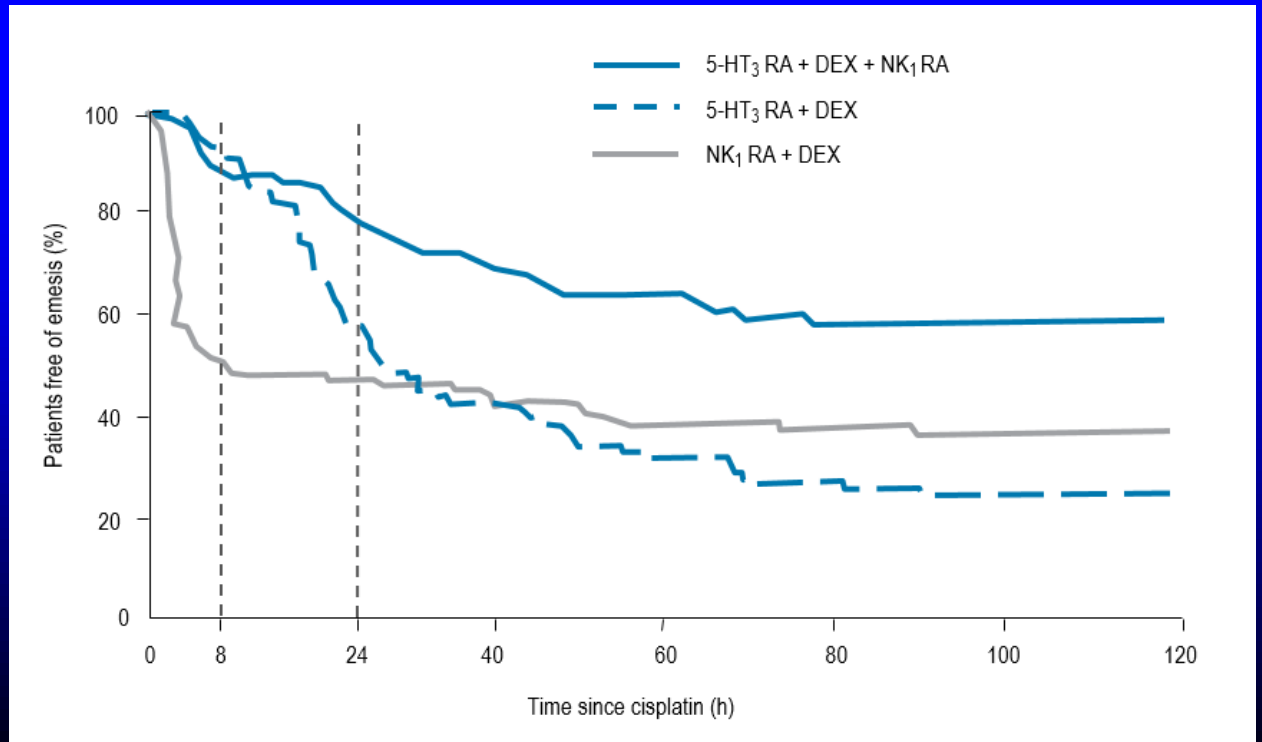
3.13. Labels for medications dispensed from the health care setting to be taken at home include:
- 3.13.1. Patient's name.
- 3.13.2. A second patient identifier.
- 3.13.3. Date of preparation and expiration.


LCA EMR(w_lungcancer_emr)
화순본원 치과 빛고
Common PD CS LCA Summary Medicine Surgery RO PFT VTE SPN
PD EMR
검색
Download
조회 F6
수진내역조회
Labo 결과
방사선 결과
병리 결과
미생물 결과
출력 F9
삭제 F4
Clear F11
입력 F3
신문
PD+CS
CS
PD
신문조회
신문출력
등록번호 718 인적사항 김 58.03 F 610526 - 255**** 조직형 SCC 진단일 2018.02.08
01- EP -01
01- EP -02
01- EP -03
01- EP -04
01- EP -05
01- EP -06
02- DIV-B -01
02- DIV-B -02
02- DIV-B -03
02- DIV-B -04
02- DIV-B -05
02- DIV-B -06
03- T -01
03- T -02
03- T -03
03- T -04
03- T -05
04- Dpdivc -01
04- Dpdivc -02
06- Dpdivc -03
06- Dpdivc -04
1. 명칭 및 투여일
flowsheet
Line 1 Name EP Cycle 1
치료개시의사 김영철
투여일 2018.02.16 2018.02.17 Stamp
목적 선행 보조 고식 근치적 구제
2. 약물 및 용량
Age 56 Sex F Wt 42 kg Ht 155 cm
Day 0 Lab:
WBC 6300 ANC 5 x10³/uL
Hb 11.8 Plt 206 x10³/uL
GOT 111 GPT 97
Creatinine 0.5 (1이하는 1로 입력)
BSA 1.34 GFR 83.30 외래경과기록첨부
E.P.S 100 mg/m² 100 % 투여량: 134 D 1-2
P 60 mg/m² 100 % 투여량: 80.4 D 1
mg/m² % 투여량: D
108.3 * * % 투여량: D
항구토제 EMEND
보조약물
chemoport
3. Toxicity Evaluation (치료 후 1-2주 사이 최저값) 외래경과기록첨부
Anorexia [0] none Weight Loss [0] <5%
Nausea [0] none Vomiting [0] none
Myalgia/Arthralgia [0] none Fatigue
Neuropathy [0] normal Alopecia [0]
diarrhea 0 Rash [0]
Febrile neutropenia [0] Infection [0]
others
Hb [1] ≥10g/dL WBC [4] <1000 ANC [4] <500
Plt [0] 정상 LFT Cr [0] 정상
4. Response Evaluation (기간 중 best score) (d 외래경과기록첨부
ECOG PS Pain(NRS) Dyspnea(MRC)
cough Sputum others
Tumor size(mm): T1: 0 T2: 0
new lesion
반응평가(RECIST)
5. 다음 치료 계획
Next schedule 중단이유
comment
결정의사 확인날짜 Stamp

Emetogenic Potential of IV and Oral agents

	Intravenous infusion	Oral medication
High (>90%)	Cisplatin Carboplatin (AUC ≥4)	Ceritinib Crizotinib Etoposide Temozolomide
Moderate (30-90%)	Carboplatin (AUC <4) Irinotecan	
Low (10-30%)	Taxanes, Pemetrexed Gemcitabine, Etoposide, Topotecan	Afatinib Alectinib Elotinib Gefitinib Osimertinib
Minimal (<10%)	Immune Checkpoint Inhibitors Vinorelbine Ramucirumab	



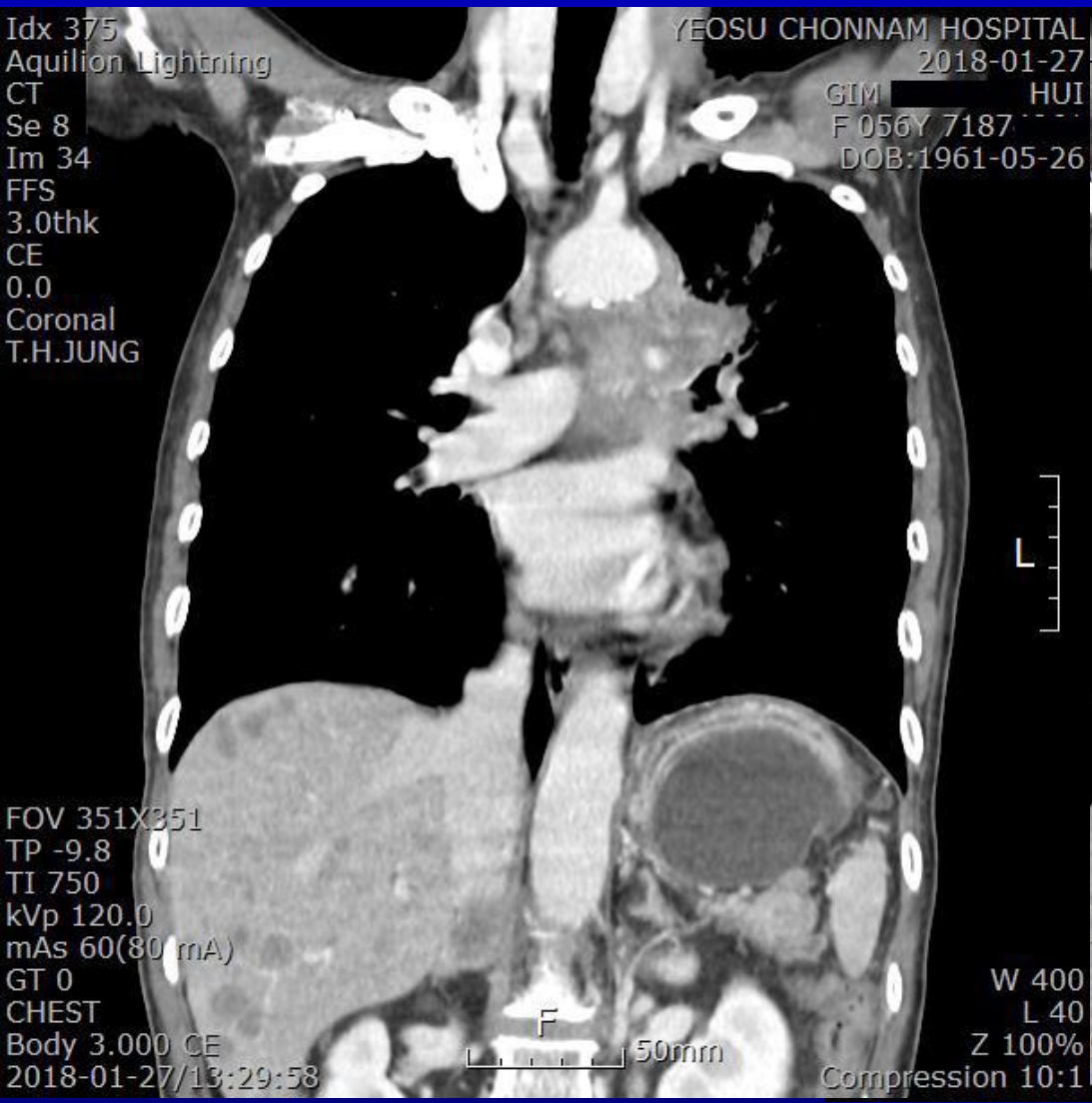


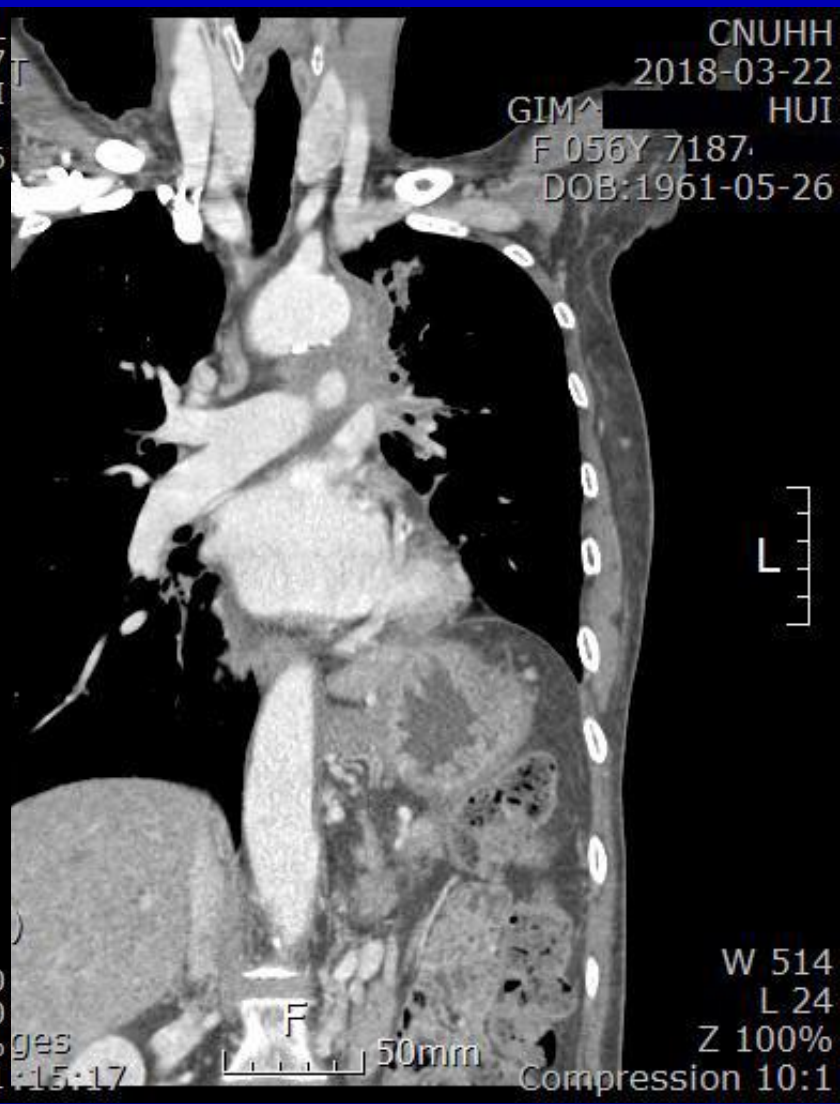
Hesketh PJ, et al.
Eur J Cancer.
2003;39:1074-80

Prophylaxis of CINV

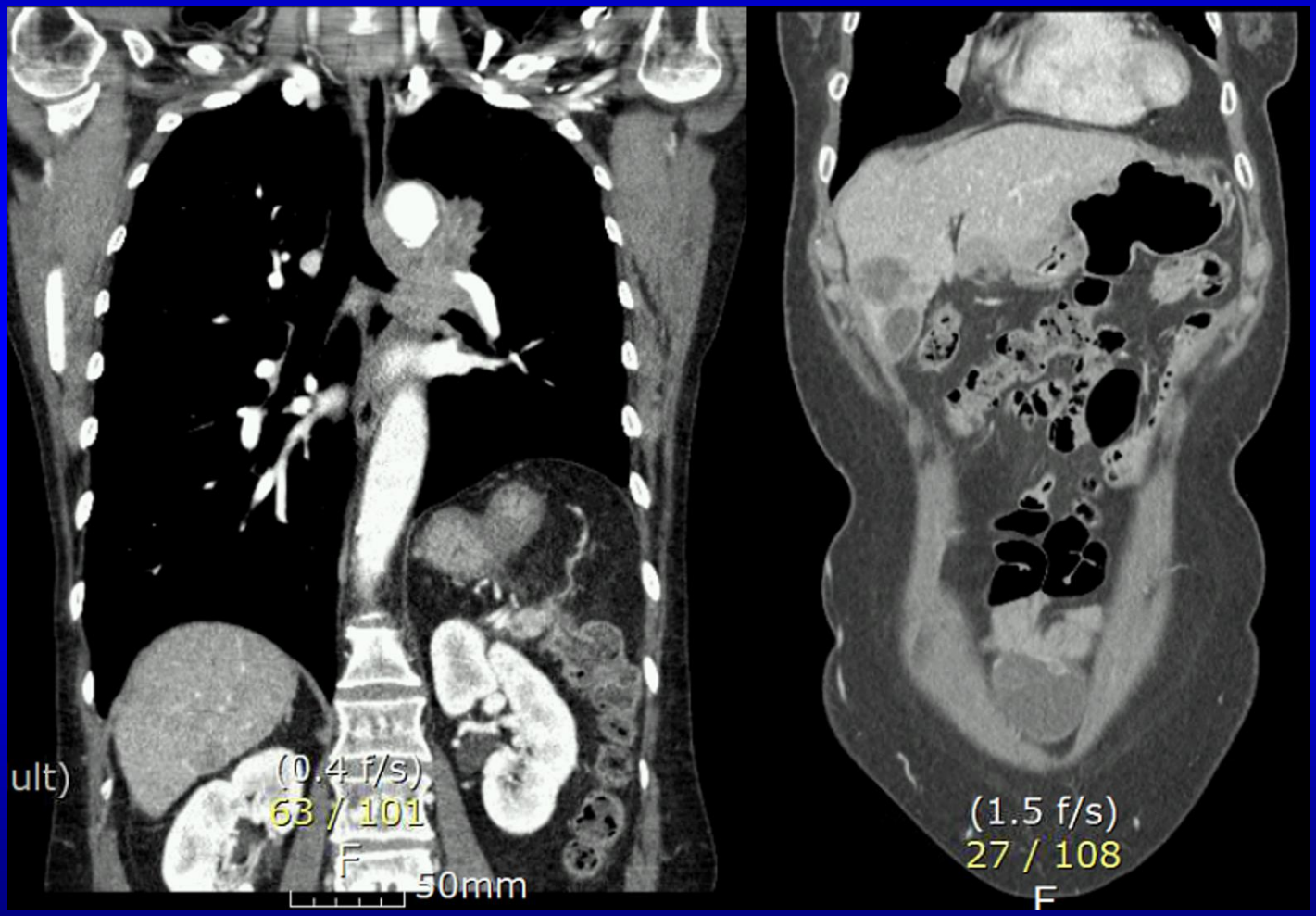
	Intravenous infusion	Oral medication
High (>90%)	NK1 RA + 5-HT3 RA + Steroid	5-HT3 RA
Moderate (30-90%)	5-HT3 RA + Steroid	
Low (10-30%)	Steroid	
Minimal (<10%)	No Routine Prophylaxis	

Case SCLC, ED


Idx 375
Aquilion Lightning
CT
Se 8
Im 34
FFS
3.0thk
CE
0.0
Coronal
T.H.JUNG
YEOSU CHONNAM HOSPITAL
2018-01-27
GIM [redacted] HUI
F 056Y 7187
DOB:1961-05-26
L
FOV 351X351
TP -9.8
TI 750
kVp 120.0
mAs 60(80 mA)
GT 0
CHEST
Body 3.000 CE
2018-01-27/13:29:58
F
50mm
W 400
L 40
Z 100%
Compression 10:1


CNUHH
2018-03-22
GIM^ [redacted] HUI
F 056Y 7187
DOB:1961-05-26
L
F
50mm
W 514
L 24
Z 100%
Compression 10:1

1-EP-6 : February ~ June, 2018
@ PD in September, 2018



어떠한 항암 처방이 좋을까요 ?

1. EP or ECb
2. Irinotecan, Topotecan, Belotecan
3. Paclitaxel
4. CAV
5. Nivolumab, Pembrolizumab

PRINCIPLES OF SYSTEMIC THERAPY*

Systemic therapy as primary or adjuvant therapy:

- **Limited stage (maximum of 4–6 cycles):**
  - Cisplatin 75 mg/m² day 1 and etoposide 100 mg/m² days 1, 2, 3[1]
  - Cisplatin 25 mg/m² days 1, 2, 3 and etoposide 100 mg/m² days 1, 2, 3[1]
  - Cisplatin 60 mg/m² day 1 and etoposide 120 mg/m² days 1, 2, 3[2]
  - Carboplatin AUC 5–6 day 1 and etoposide 100 mg/m² days 1, 2, 3[3]
  - During systemic therapy + RT, cisplatin/etoposide is recommended (category 1).
  - The use of myeloid growth factors is not recommended during concurrent systemic therapy plus radiotherapy (category 1 for not using GM-CSF).[4]

- **Extensive stage (maximum of 4–6 cycles):**
  - Carboplatin AUC 5 day 1 and etoposide 100 mg/m² days 1, 2, 3 and atezolizumab 1,200 mg day 1 every 21 days x 4 cycles followed by maintenance atezolizumab 1,200 mg (category 1, preferred)[§,5]
  - Carboplatin AUC 5–6 day 1 and etoposide 100 mg/m² days 1, 2, 3[†,6]
  - Cisplatin 75 mg/m² day 1 and etoposide 100 mg/m² days 1, 2, 3[†,7]
  - Cisplatin 80 mg/m² day 1 and etoposide 80 mg/m² days 1, 2, 3[†,8]
  - Cisplatin 25 mg/m² days 1, 2, 3 and etoposide 100 mg/m² days 1, 2, 3[†,9]
  - Carboplatin AUC 5 day 1 and irinotecan 50 mg/m² days 1, 8, 15[†,10]
  - Cisplatin 60 mg/m² day 1 and irinotecan 60 mg/m² days 1, 8, 15[†,11]
  - Cisplatin 30 mg/m² days 1, 8 and irinotecan 65 mg/m² days 1, 8[†,12]

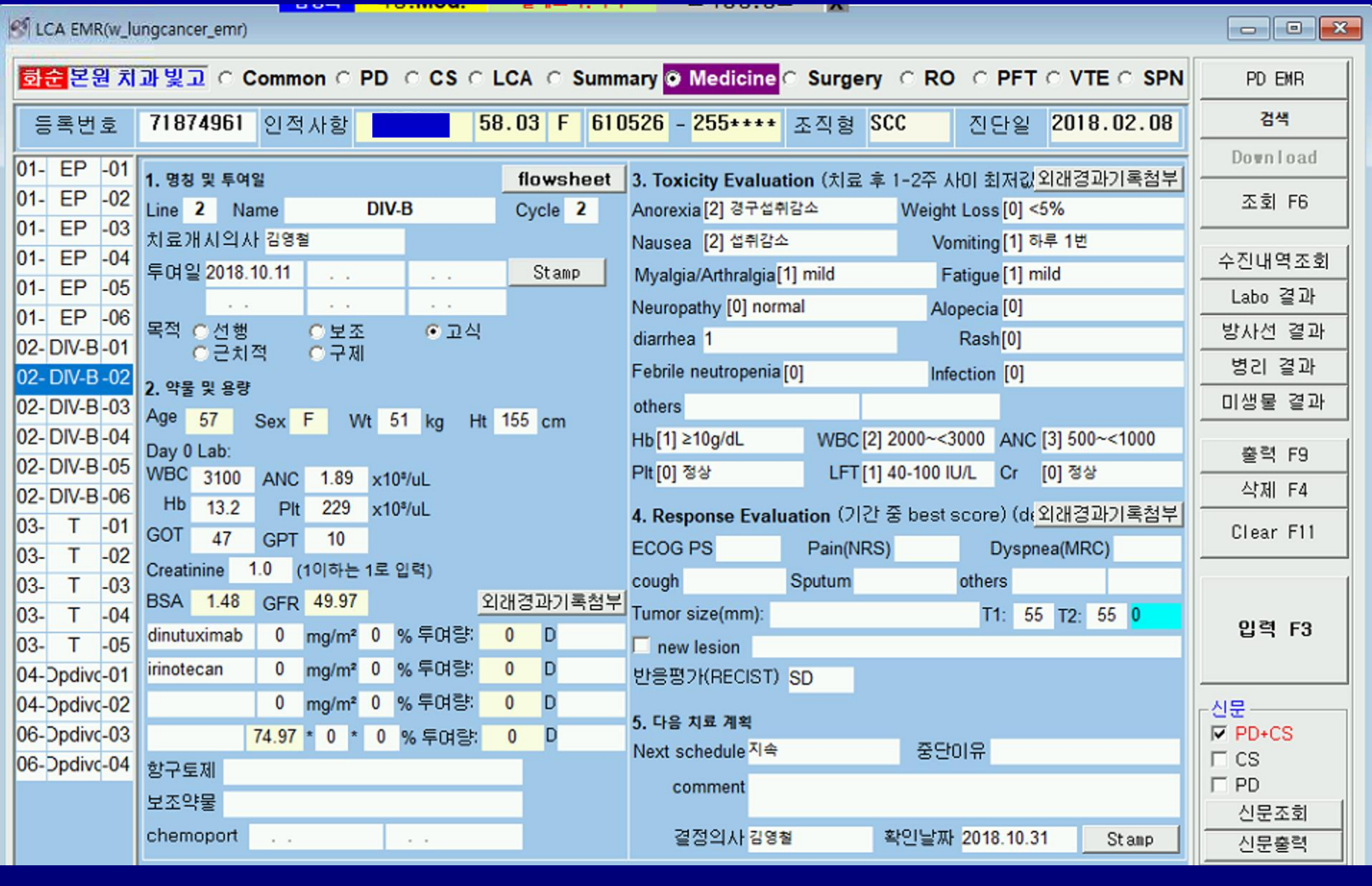
Subsequent systemic therapy:[‡]

- **Clinical trial preferred.**

- **Relapse ≤6 mo, PS 0-2:**
  - Topotecan PO or IV[13-15]
  - Irinotecan[16]
  - Paclitaxel[17,18]
  - Docetaxel[19]
  - Temozolomide[20,21]
  - Nivolumab ± ipilimumab[22,23]
  - Pembrolizumab[24]
  - Vinorelbine[25,26]
  - Oral etoposide[27,28]
  - Gemcitabine[29,30]
  - Cyclophosphamide/doxorubicin/vincristine (CAV)[12]
  - Bendamustine (category 2B)[31]

- **Relapse >6 mo: original regimen[32,33§]**

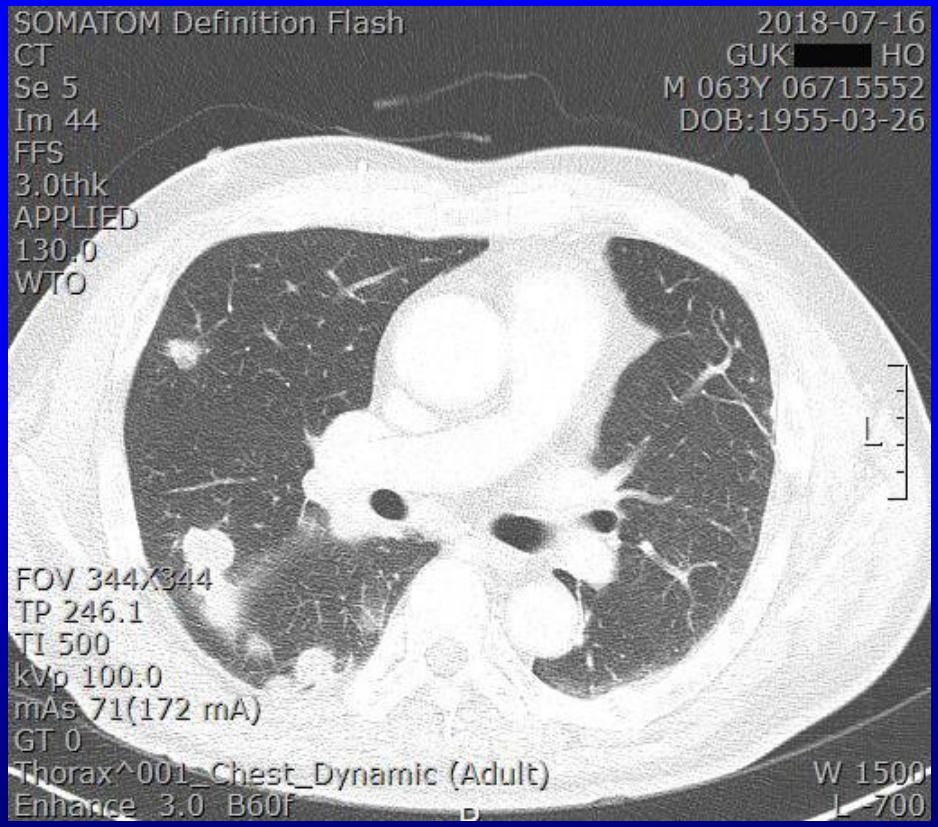
Consider dose reduction or growth factor support for patients with PS 2

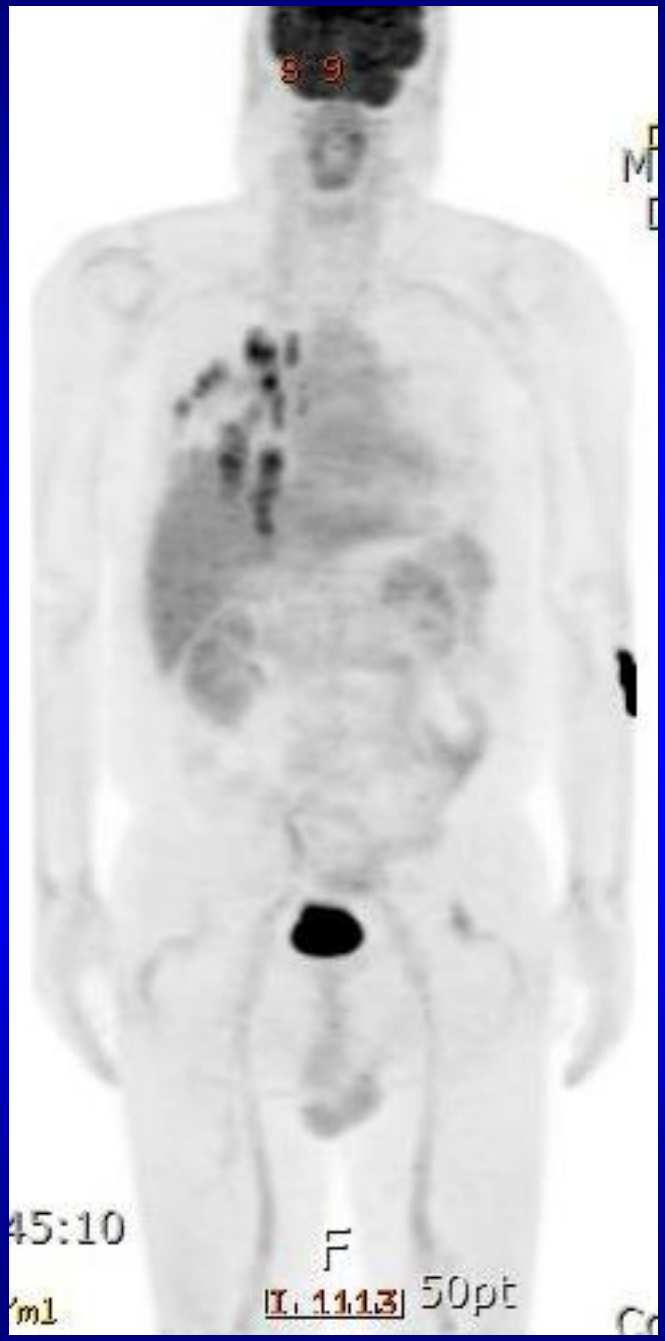

LCA EMR(w_lungcancer_emr)
화순본원 치과빛고
Common PD CS LCA Summary Medicine Surgery RO PFT VTE SPN
PD EMR
검색
Download
조회 F6
수진내역조회
Labo 결과
방사선 결과
병리 결과
미생물 결과
출력 F9
삭제 F4
Clear F11
입력 F3
신문
PD+CS
CS
PD
신문조회
신문출력
등록번호 71874961 인적사항 58.03 F 610526 - 255**** 조직형 SCC 진단일 2018.02.08
01- EP -01
01- EP -02
01- EP -03
01- EP -04
01- EP -05
01- EP -06
02- DIV-B -01
02- DIV-B -02
02- DIV-B -03
02- DIV-B -04
02- DIV-B -05
02- DIV-B -06
03- T -01
03- T -02
03- T -03
03- T -04
03- T -05
04- Opdivo -01
04- Opdivo -02
06- Opdivo -03
06- Opdivo -04
1. 명칭 및 투여일
flowsheet
Line 2 Name DIV-B Cycle 2
치료개시의사 김영철
투여일 2018.10.11
Stamp
목적 선행 보조 고식 근치적 구제
2. 약물 및 용량
Age 57 Sex F Wt 51 kg Ht 155 cm
Day 0 Lab:
WBC 3100 ANC 1.89 x10³/uL
Hb 13.2 Plt 229 x10³/uL
GOT 47 GPT 10
Creatinine 1.0 (1이하는 1로 입력)
BSA 1.48 GFR 49.97
외래경과기록첨부
dinutuximab 0 mg/m² 0 % 투여량: 0 D
irinotecan 0 mg/m² 0 % 투여량: 0 D
0 mg/m² 0 % 투여량: 0 D
74.97 * 0 * 0 % 투여량: 0 D
항구토제
보조약물
chemoport
3. Toxicity Evaluation (치료 후 1-2주 사이 최저값)
외래경과기록첨부
Anorexia [2] 경구섭취감소
Weight Loss [0] <5%
Nausea [2] 섭취감소
Vomiting [1] 하루 1번
Myalgia/Arthralgia [1] mild
Fatigue [1] mild
Neuropathy [0] normal
Alopecia [0]
diarrhea 1
Rash [0]
Febrile neutropenia [0]
Infection [0]
others
Hb [1] ≥10g/dL
WBC [2] 2000~<3000
ANC [3] 500~<1000
Plt [0] 정상
LFT [1] 40-100 IU/L
Cr [0] 정상
4. Response Evaluation (기간 중 best score) (de
외래경과기록첨부
ECOG PS
Pain(NRS)
Dyspnea(MRC)
cough
Sputum
others
Tumor size(mm):
T1: 55 T2: 55 0
new lesion
반응평가(RECIST) SD
5. 다음 치료 계획
Next schedule 지속
중단이유
comment
결정의사 김영철
확인날짜 2018.10.31
Stamp

5 Cases

- 1/5. Small Cell Ca. Limited Stage
  - Neutropenia, Anemia, PCI
- 2/5. Small Cell Ca. Extensive Stage
  - Safety guideline, Antiemetics
- 3/5. Squamous Cell Ca. IV
  - Extravasation
- 4/5. Adenocarcinoma. IV
  - Response evaluation
- 5/5. Adenocarcinoma. IV
  - Adding Local Treatment

63/M, SQC
T4, N2, M1c
EGFR wild, ALK FISH negative
SP263 5%, SP142 (-), 22C3 1%





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NCCN Guidelines Version 5.2019
Non-Small Cell Lung Cancer

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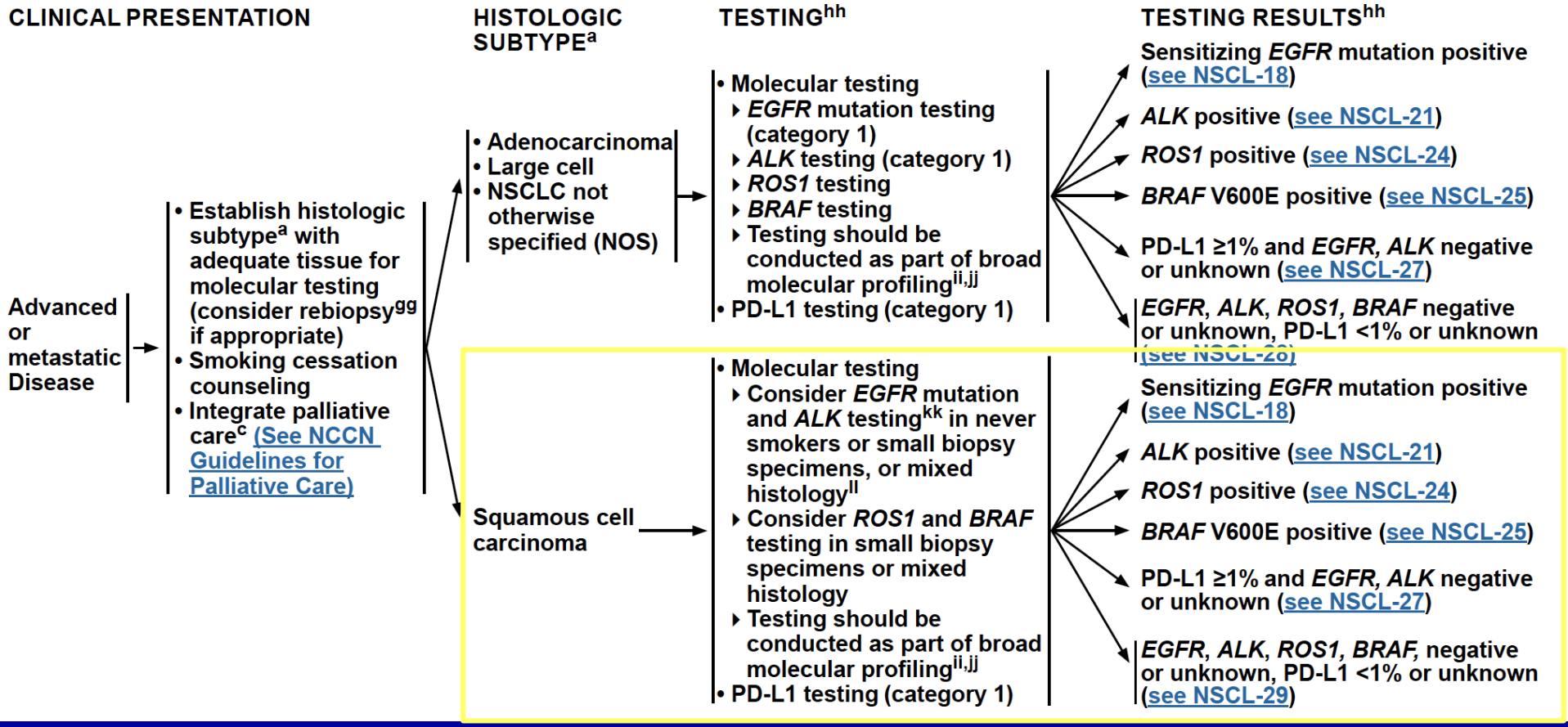

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NCCN Guidelines Version 5.2019
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SYSTEMIC THERAPY FOR ADVANCED OR METASTATIC DISEASE[a,b,h]

Initial Systemic Therapy Options

Squamous Cell Carcinoma (PS 0-1)

No contraindications to the addition of pembrolizumab[c]

- **Pembrolizumab/carboplatin/paclitaxel[31,d] (category 1) (preferred)**
- **Pembrolizumab/carboplatin/albumin-bound paclitaxel[31,d] (category 1) (preferred)**
- **Pembrolizumab/cisplatin/paclitaxel[d]**
- **Pembrolizumab/cisplatin/albumin-bound paclitaxel[d]**

Contraindications to the addition of pembrolizumab[c]

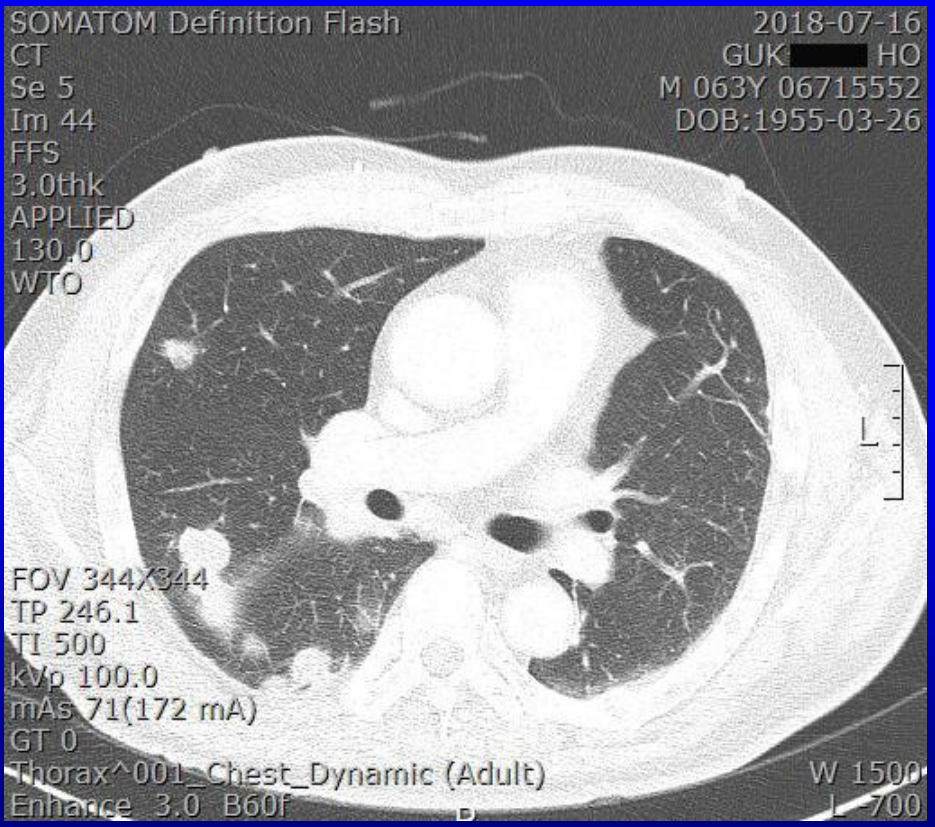
- ~~Carboplatin/albumin-bound paclitaxel (category 1)[7]~~
- **Carboplatin/docetaxel (category 1)[8]**
- **Carboplatin/gemcitabine (category 1)[11]**
- **Carboplatin/paclitaxel (category 1)[12]**
- **Cisplatin/docetaxel (category 1)[8]**
- **Cisplatin/etoposide (category 1)[14]**
- **Cisplatin/gemcitabine (category 1)[12,15]**
- **Cisplatin/paclitaxel (category 1)[16]**
- **Gemcitabine/docetaxel (category 1)[17]**
- **Gemcitabine/vinorelbine (category 1)[18]**

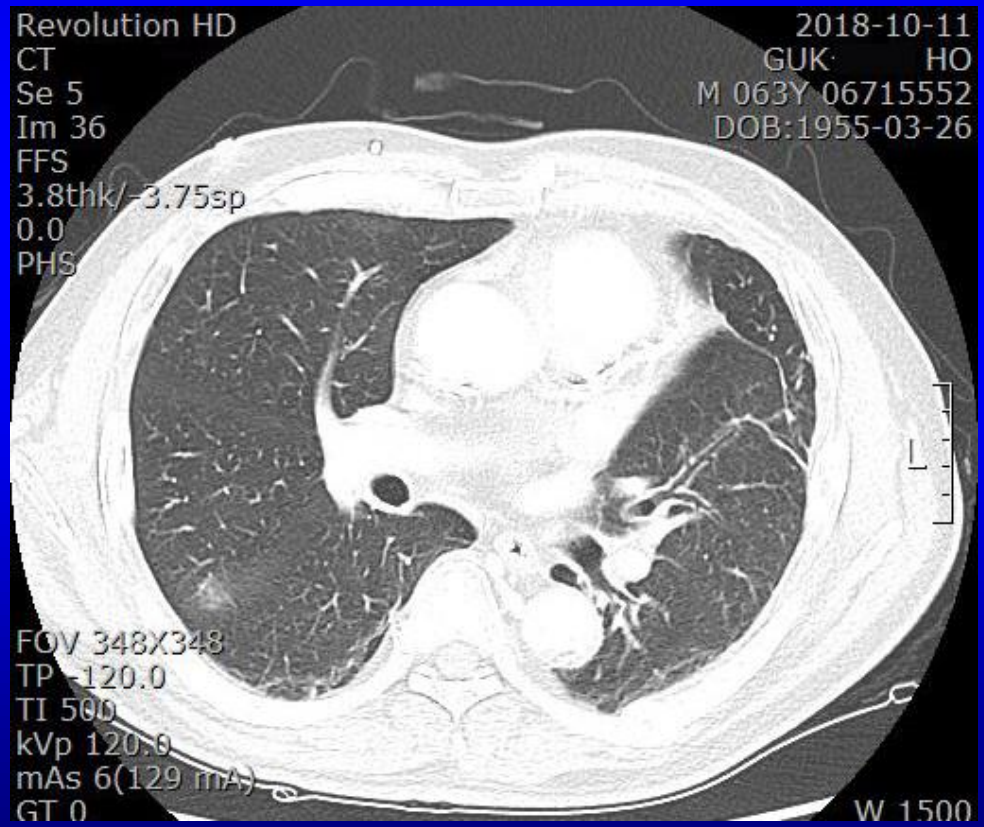
Squamous Cell Carcinoma (PS 2)

- **Albumin-bound paclitaxel[19]**
- **Carboplatin/albumin-bound paclitaxel[20,21]**
- **Carboplatin/docetaxel[8]**
- **Carboplatin/etoposide[9,10]**
- **Carboplatin/gemcitabine[11]**
- **Carboplatin/paclitaxel[12]**
- **Docetaxel[22,23]**
- **Gemcitabine[24-26]**
- **Gemcitabine/docetaxel[17]**
- **Gemcitabine/vinorelbine[18]**
- **Paclitaxel[27-29]**

$^{3}/_{5}$

63/M, SQC
T4, N2, M1c
EGFR wild, ALK FISH negative
SP263 5%, SP142 (-), 22C3 1% → 1-GP-2





등록번호	06715552	인적사항	국[redacted]	64.05	M	550326 - 155****	조직형	SQC	진단일	2018.07.18

01-	GP	-01
01-	GP	-02
01-	GP	-03
01-	GP	-04
01-	G	-05
01-	G	-06
01-	G	-07
01-	G	-08
02-	WD	-01
02-	WD	-02
02-	WD	-03
02-	WD	-04
02-	WD	-05
02-	WD	-06
03-	N	-01
03-	N	-02

1. 명칭 및 투여일 flowsheet

Line 1 Name GP Cycle 4

치료개시의사 김영철

투여일 2018.09.27 2018.10.04 . . Stamp

. . . . . .

목적 ○ 선행 ○ 보조 ◉ 고식 ○ 근치적 ○ 구제

2. 약물 및 용량

Age 63 Sex M Wt 79 kg Ht 167 cm

Day 0 Lab:

WBC 4300 ANC 1.14 x10³/uL

Hb 13.3 Plt 331 x10³/uL

GOT 25 GPT 11

Creatinine 1.1 (1이하는 1로 입력)

BSA 1.91 GFR 76.81 외래경과기록첨부

Gembine	1250	mg/m²	100	%	투여량:	2387.5	D 1,8
P	60	mg/m²	100	%	투여량:	114.6	D 1
		mg/m²		%	투여량:		D
	101.81	*		*	%	투여량:	D

항구토제 EMEND

보조약물

chemoport . . . .

3. Toxicity Evaluation (치료 후 1-2주 사이 최저값) 외래경과기록첨부

Anorexia [0] none Weight Loss [0] <5%

Nausea [0] none Vomiting [0] none

Myalgia/Arthralgia [0] none Fatigue

Neuropathy [0] normal Alopecia [0]

diarrhea 0 Rash [0]

Febrile neutropenia [0] Infection [0]

others

Hb [0] 정상 WBC [1] ≥3000 ANC [2] 1000~<1500

Plt [0] 정상 LFT [0] 정상 Cr [0] 정상

4. Response Evaluation (기간 중 best score) (de 외래경과기록첨부

ECOG PS [1] Pain(NRS) 0 Dyspnea(MRC) 1

cough [1] mild Sputum [0] others

Tumor size(mm): T1: 0 T2: 0

☐ new lesion

반응평가(RECIST) PR

5. 다음 치료 계획

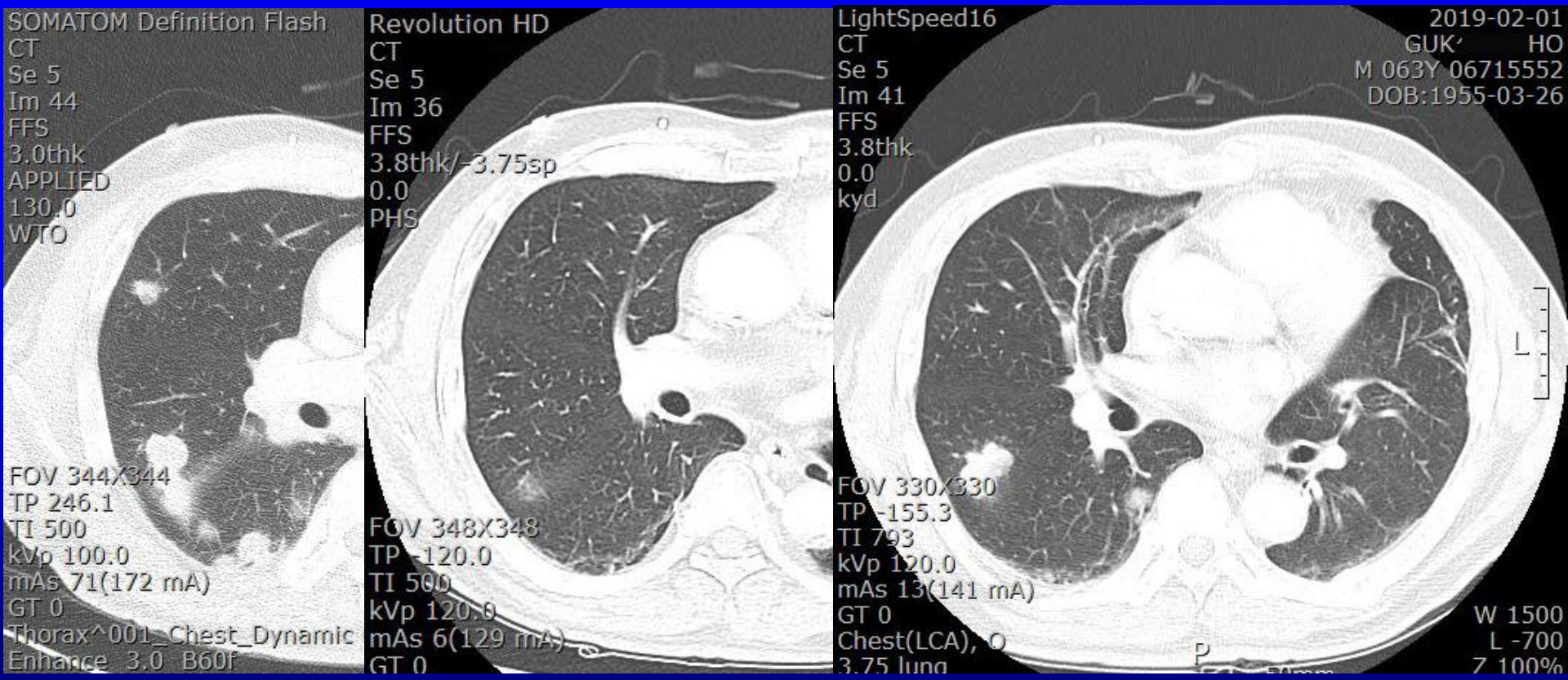
Next schedule 지속 중단이유

comment

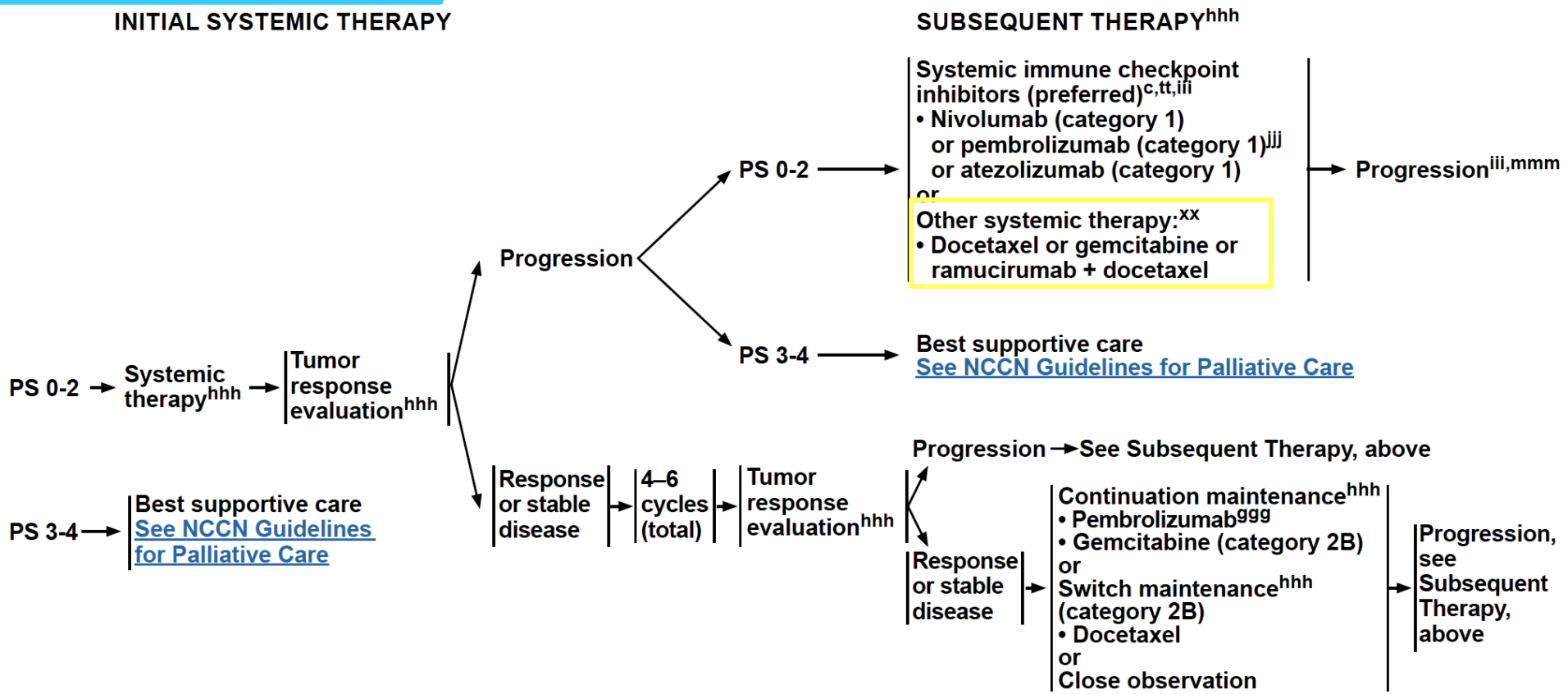
결정의사 김영철 확인날짜 2018.10.10 Stamp

$^{3}/_{5}$

63/M, SQC
T4, N2, M1c
EGFR wild, ALK FISH negative
SP263 5%, SP142 (-), 22C3 1% → 1-GP-8



SQUAMOUS CELL CARCINOMA



화순본원 치과빛고 ○ Common ○ PD ○ CS ○ LCA ○ Summary ◉ Medicine ○ Surgery ○ RO ○ PFT ○ VTE ○ SPN

등록번호	06715552	인적사항	국[redacted]	64.05	M	550326 - 155****	조직형	SQC	진단일	2018.07.18

01-	GP	-01
01-	GP	-02
01-	GP	-03
01-	GP	-04
01-	G	-05
01-	G	-06
01-	G	-07
01-	G	-08
02-	WD	-01
02-	WD	-02
02-	WD	-03
02-	WD	-04
02-	WD	-05
02-	WD	-06
03-	N	-01
03-	N	-02

1. 명칭 및 투여일 flowsheet

Line 2 Name WD Cycle 2

치료개시의사 김영철

투여일 2019.02.28 2019.03.07 . . Stamp

. . . . . .

목적 ○ 선행 ○ 보조 ◉ 고식 ○ 근치적 ○ 구제

2. 약물 및 용량

Age 63 Sex M Wt 72 kg Ht 168 cm

Day 0 Lab:

WBC 7700 ANC 4.27 x10³/uL

Hb 15.2 Plt 294 x10³/uL

GOT 14 GPT 7

Creatinine 1.1 (1이하는 1로 입력)

BSA 1.83 GFR 70.00 외래경과기록첨부

Belotaxel	40	mg/m²	100	% 투여량:	73.2	D	1,8
	0	mg/m²	0	% 투여량:	0	D	
	0	mg/m²	0	% 투여량:	0	D	
	95	* 0 *	0	% 투여량:	0	D	

항구토제 others

보조약물

chemoport . . . .

3. Toxicity Evaluation (치료 후 1-2주 사이 최저값) 외래경과기록첨부

Anorexia	[0] none	Weight Loss	[0] <5%
Nausea	[0] none	Vomiting	[0] none
Myalgia/Arthralgia	[0] none	Fatigue	
Neuropathy	[0] normal	Alopecia	[0]
diarrhea	0	Rash	[0]
Febrile neutropenia	[0]	Infection	[0]
others			
Hb	[0] 정상	WBC	[0] 정상
ANC	[0] 정상	Plt	[0] 정상
LFT		Cr	

4. Response Evaluation (기간 중 best score) (de 외래경과기록첨부

ECOG PS Pain(NRS) Dyspnea(MRC)

cough Sputum others

Tumor size(mm): T1: 0 T2: 0 0

☐ new lesion

반응평가(RECIST) PR

5. 다음 치료 계획

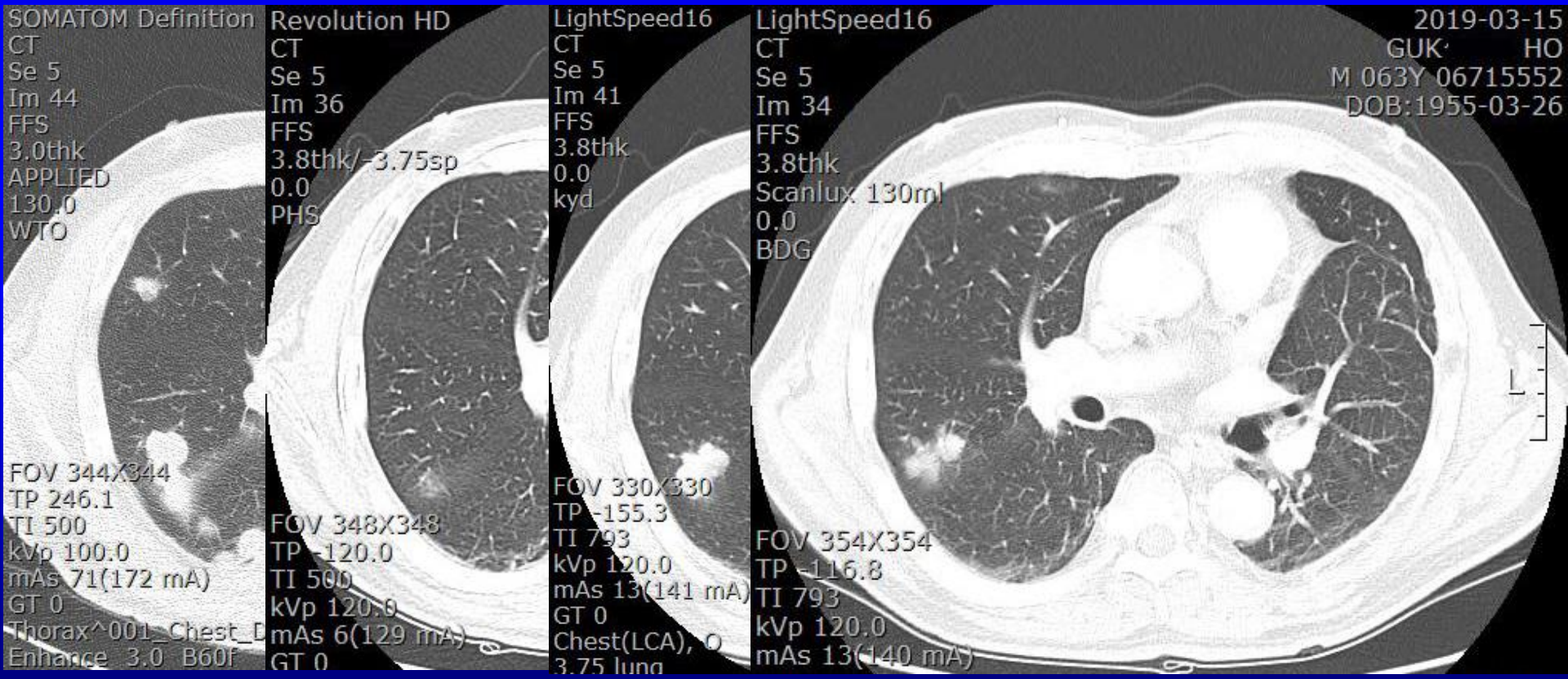
Next schedule 지속 중단이유

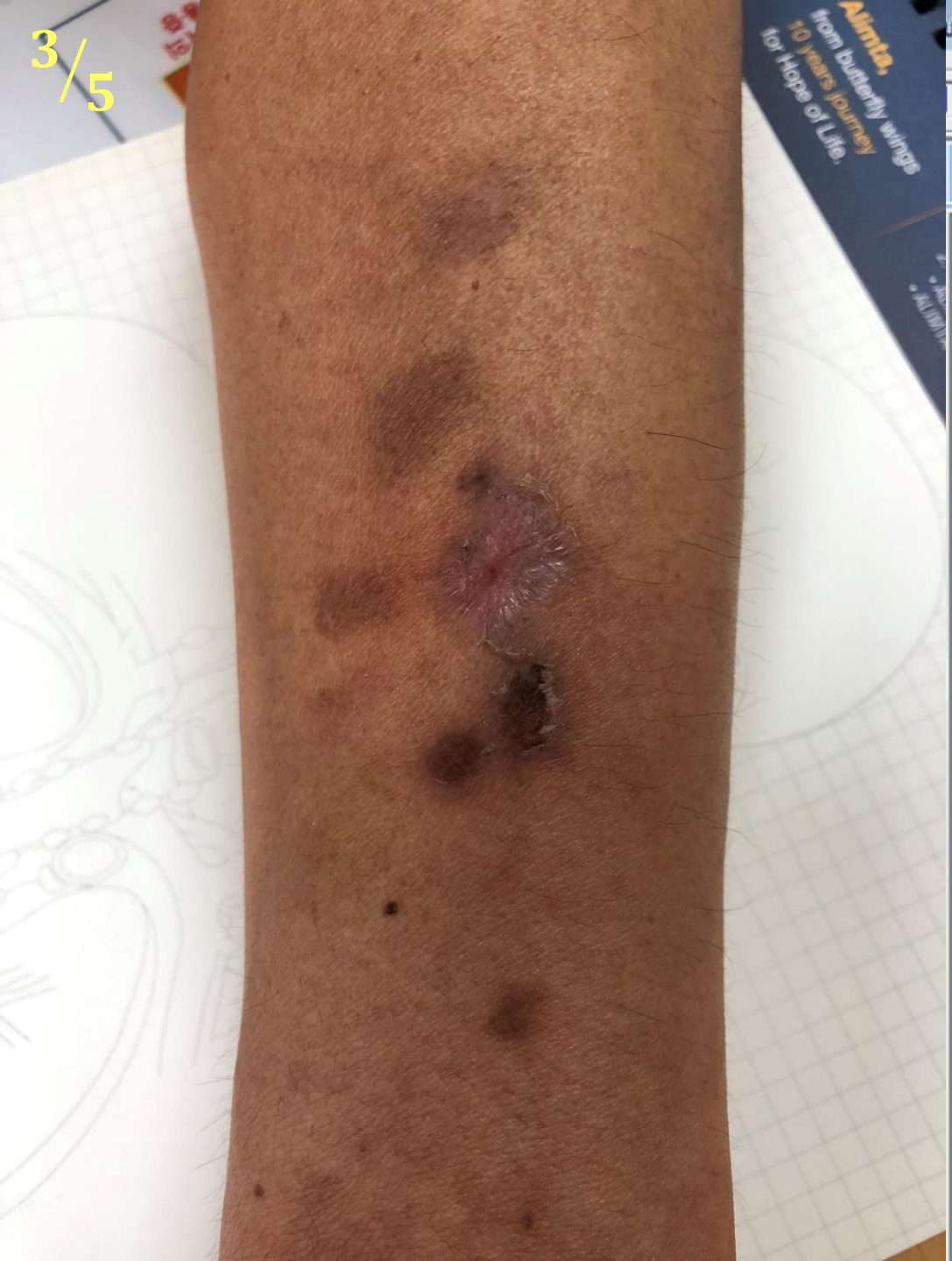
comment

결정의사 김영철 확인날짜 2019.03.14 Stamp

3/5

63/M, SQC
T4, N2, M1c
EGFR wild, ALK FISH negative
SP263 5%, SP142 (-), 22C3 1% → 1-GP-8, 2-D-2





ungcancer_emr)

과 및 고 ○ Common ○ PD ○ CS ○ LCA ○ Summa

06715552 인적사항 [redacted] 64.05 M 550

1. 명칭 및 투여일 flowsheet

Line 2 Name WD Cycle 3

치료개시의사 김영철

투여일 2019.03.21 2019.03.28 . . Stamp

. . . . . .

목적 ○ 선행 ○ 보조 ● 고식 ○ 근치적 ○ 구제

2. 약물 및 용량

Age 64 Sex M Wt 72 kg Ht 168 cm

Day 0 Lab:

WBC 5100 ANC 2.75 x10³/uL

Hb 13.2 Plt 274 x10³/uL

GOT 20 GPT 10

Creatinine 0.9 (1이하는 1로 입력)

BSA 1.83 GFR 84.44 외래경과기록첨부

Belotataxel	40	mg/m²	100	% 투여량:	73.2	D	1,8
		mg/m²		% 투여량:		D	
		mg/m²		% 투여량:		D	
	109.44	*	*	% 투여량:		D	

항구토제 others

보조약물

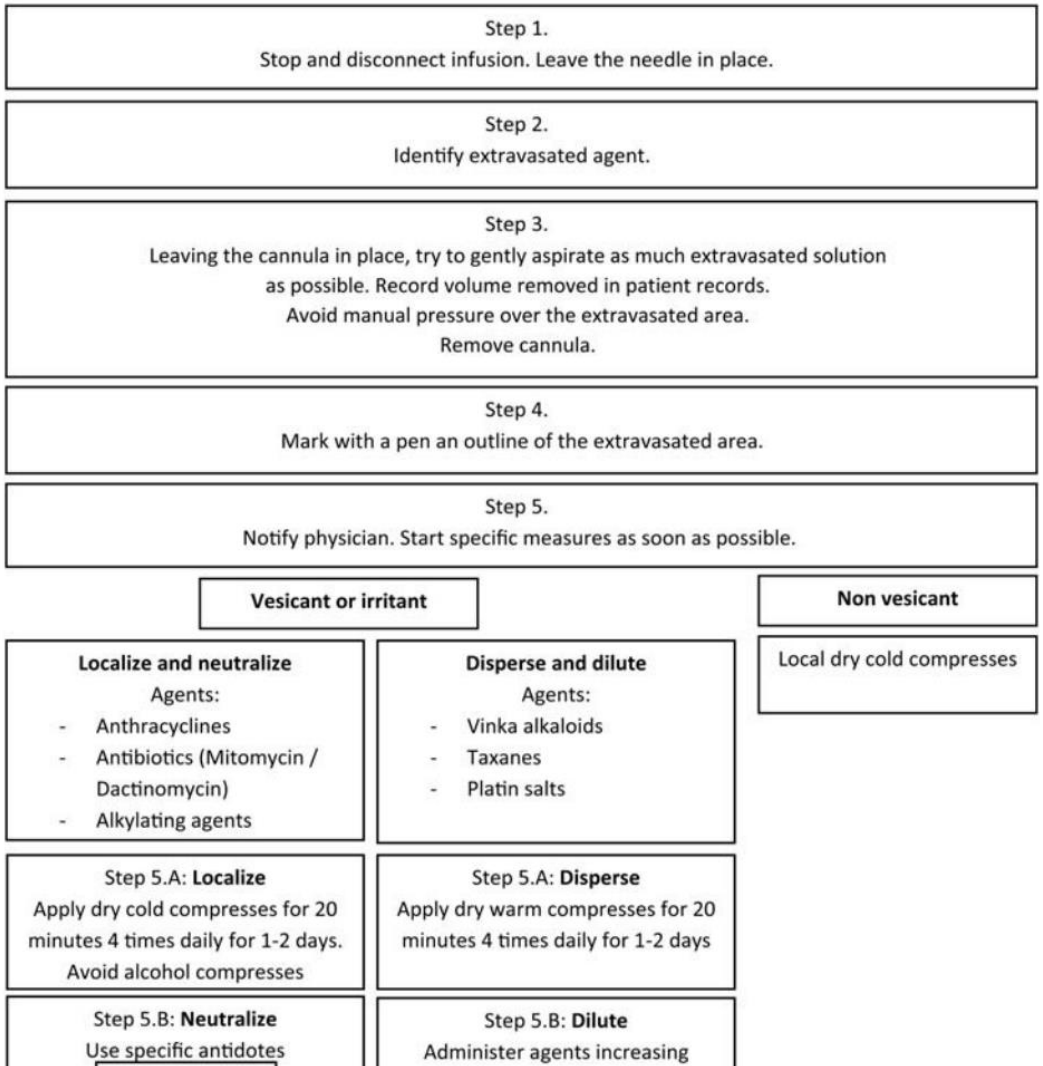
chemoport 2019.03.22 . .

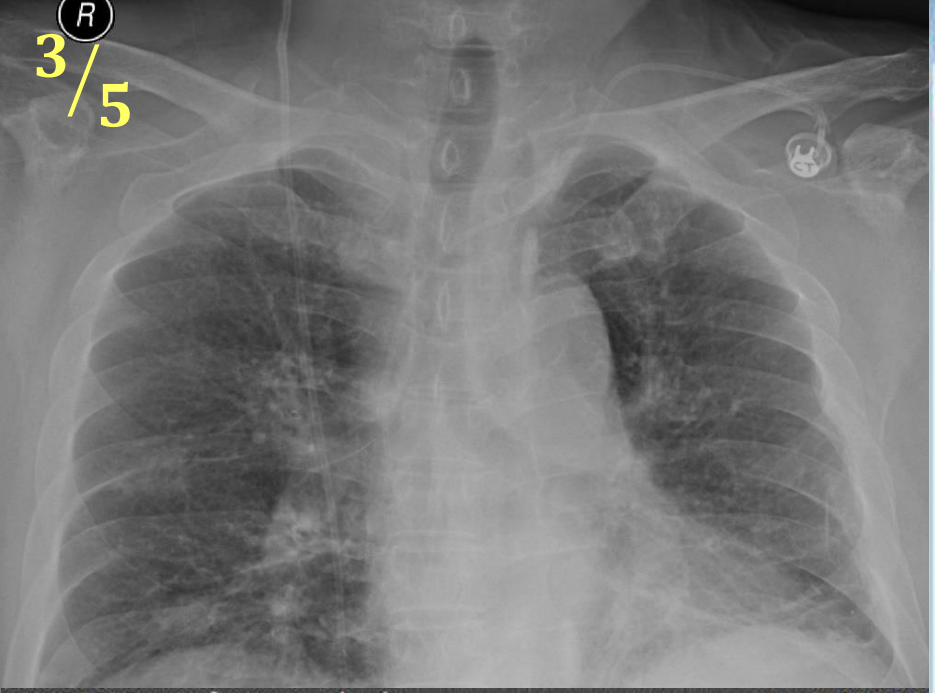
Initial management of Extravasation

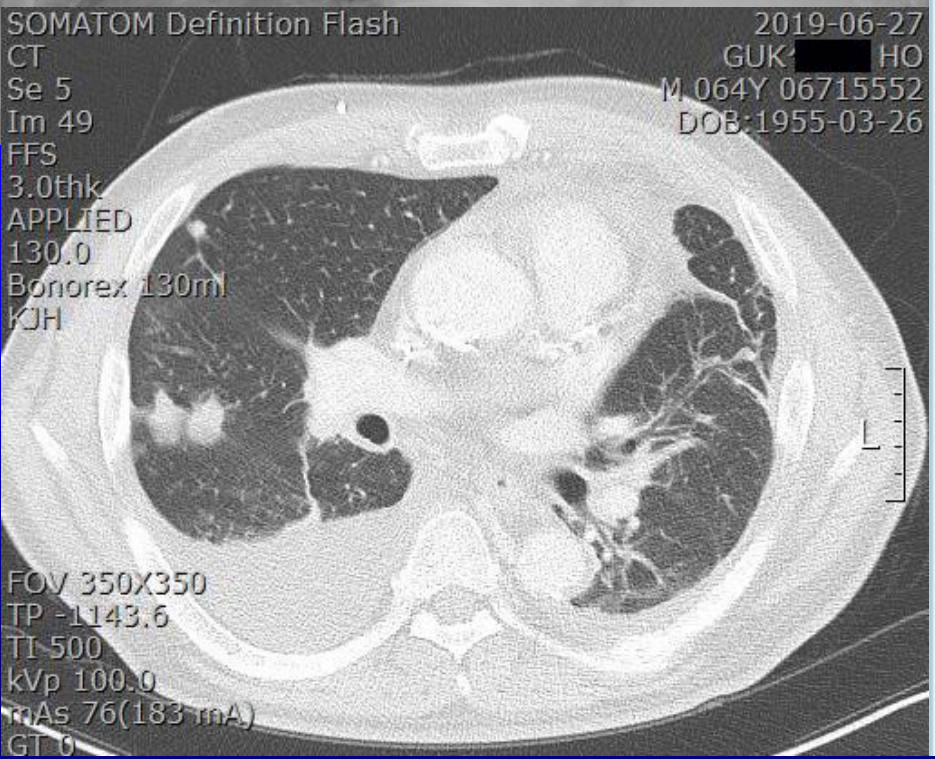
- Stop the infusion, Do Not Flush the Line.
- Elevate the affected Extremity.
- Needle should be Left in Place to attempt to aspirate fluid from the extravasated area and to facilitate the administration of an antidote to the local area
  - Hyaluronidase : Vinorelbine, Etoposide, Taxanes
  - Sodium Thiosulfate : Cisplatin
- If an antidote will not be injected into the extravasation site, the catheter/needle can be removed after attempted aspiration of the subcutaneous tissues.
- Topical Cold packs is recommended for extravasation of all vesicant or irritant drugs except the vinorelbine and etoposide (Hot pack).

Annals of Oncology 23 (Supplement 7): vii167–vii173, 2012
doi:10.1093/annonc/mds294

Management of chemotherapy extravasation: ESMO–EONS Clinical Practice Guidelines†







LCA EMR(w_lungcancer_emr)

화순본원 치과빛고 ○ Common ○ PD ○ CS ○ LCA ○ Su

등록번호 06715552 인적사항 [redacted] 64.05 M

01-	GP	-01
01-	GP	-02
01-	GP	-03
01-	GP	-04
01-	G	-05
01-	G	-06
01-	G	-07
01-	G	-08
02-	WD	-01
02-	WD	-02
02-	WD	-03
02-	WD	-04
02-	WD	-05
02-	WD	-06
03-	N	-01
03-	N	-02

1. 명칭 및 투여일 flowshe

Line 3 Name N Cycle 1

치료개시의사 김영철

투여일 2019.07.04 2019.07.18 . . Stamp

. . . . . .

목적 ○ 선행 ○ 보조 ● 고식 ○ 근치적 ○ 구제

2. 약물 및 용량

Age 64 Sex M Wt 77 kg Ht 167 cm

Day 0 Lab:

WBC 5800 ANC 2.89 x10³/uL

Hb 13.7 Plt 329 x10³/uL

GOT 26 GPT 8

Creatinine 0.9 (1이하는 1로 입력)

BSA 1.89 GFR 90.31 외래경과기록

N		30	mg/m²	100	% 투여량:	56.7	D 1,8
			mg/m²		% 투여량:		D
			mg/m²		% 투여량:		D
	115.31	*	*		% 투여량:		D

항구토제 others

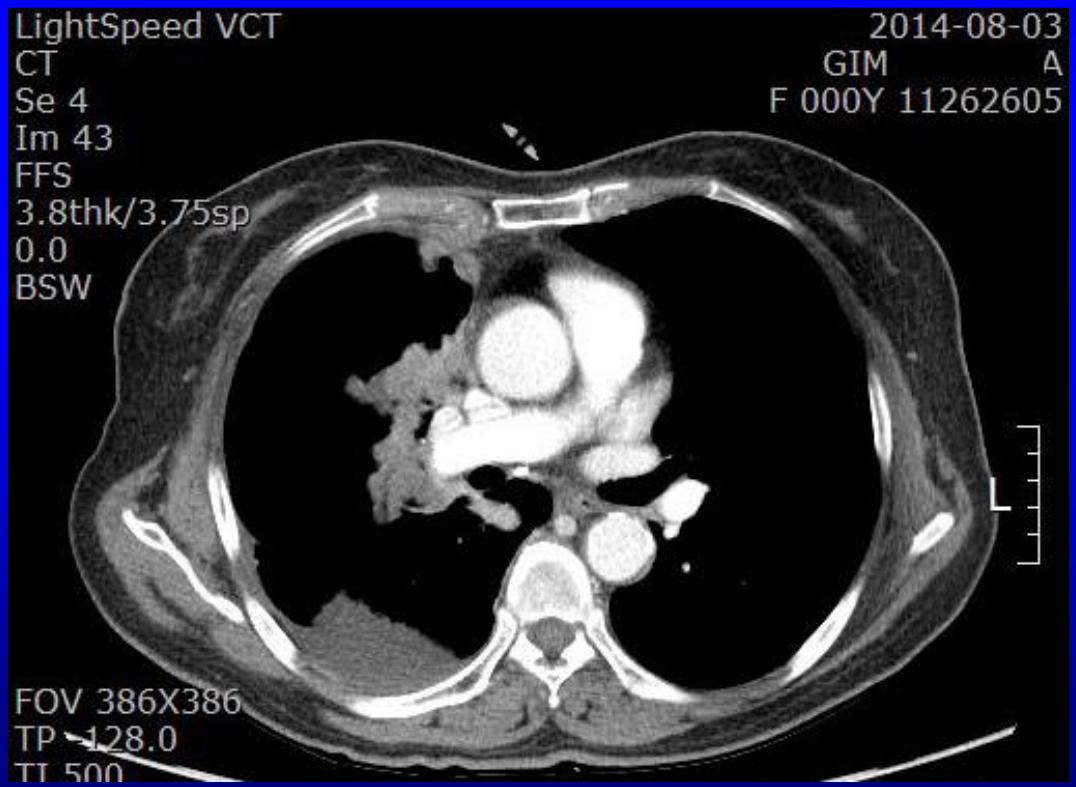
보조약물

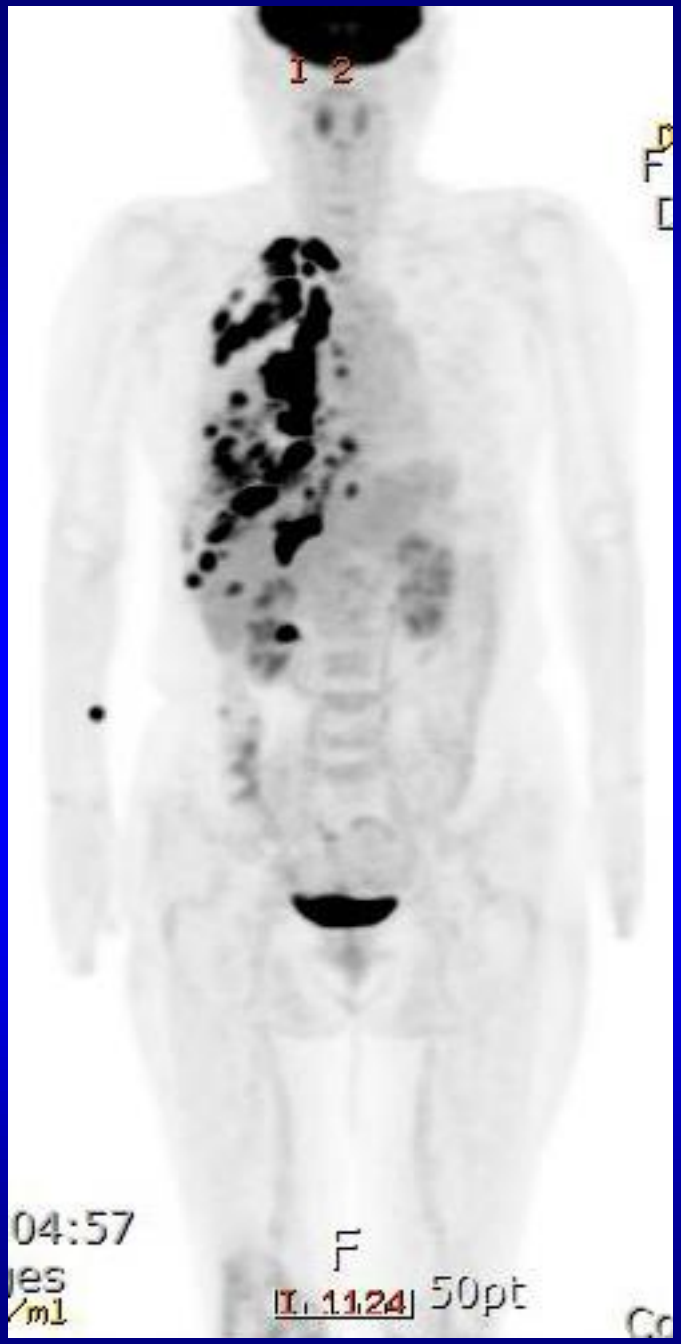
chemoport 2019.03.22 . .

5 Cases

- 1/5. Small Cell Ca. Limited Stage
  - Neutropenia, Anemia, PCI
- 2/5. Small Cell Ca. Extensive Stage
  - Safety guideline, Antiemetics
- 3/5. Squamous Cell Ca. IV
  - Extravasation
- 4/5. Adenocarcinoma. IV
  - Response evaluation
- 5/5. Adenocarcinoma. IV
  - Adding Local Treatment

66, F, ADC, T4, N2, M1a
EGFR (w), ALK FISH (-),





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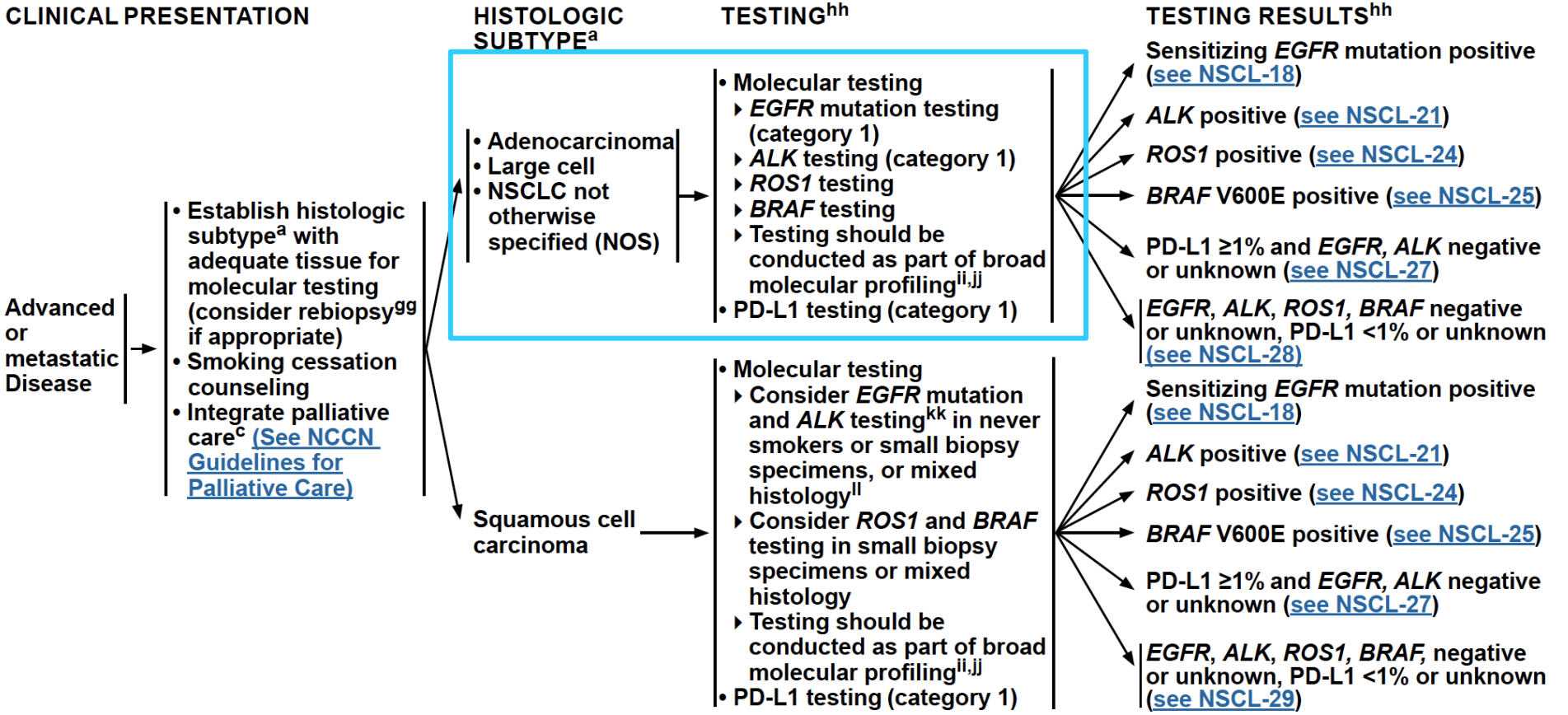

National Comprehensive Cancer Network®

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Non-Small Cell Lung Cancer

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SYSTEMIC THERAPY FOR ADVANCED OR METASTATIC DISEASE[a,b]

Initial Systemic Therapy Options

Adenocarcinoma, Large Cell, NSCLC NOS (PS 0-1)

No contraindications to the addition of pembrolizumab or atezolizumab[c]

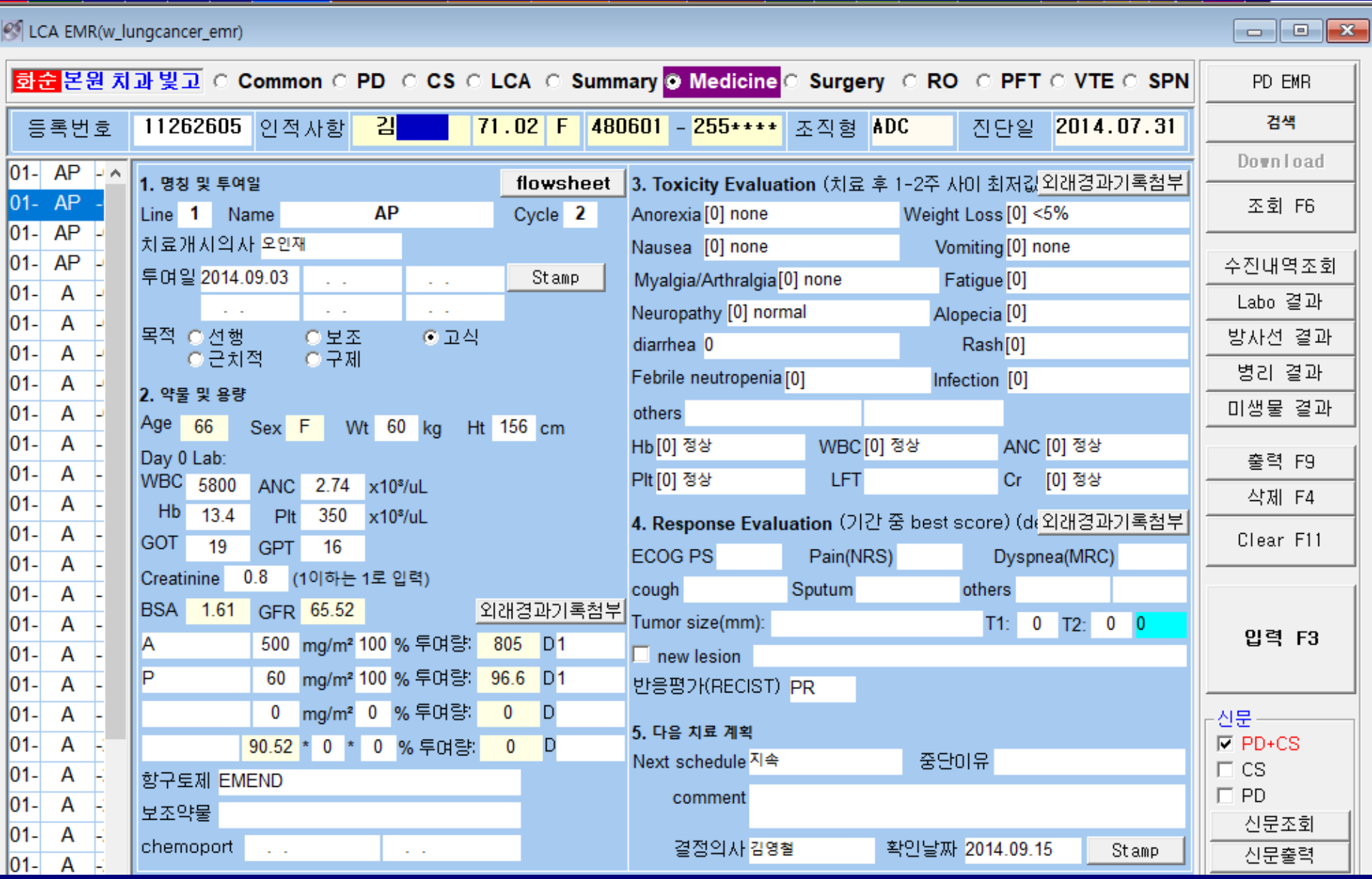
- Pembrolizumab/carboplatin/pemetrexed (category 1)[1,2,d] (preferred)
- Pembrolizumab/cisplatin/pemetrexed (category 1)[2,d] (preferred)
- Atezolizumab/carboplatin/paclitaxel/bevacizumab (category 1)[3,d,e,f,g]

Contraindications to the addition of pembrolizumab or atezolizumab[c]

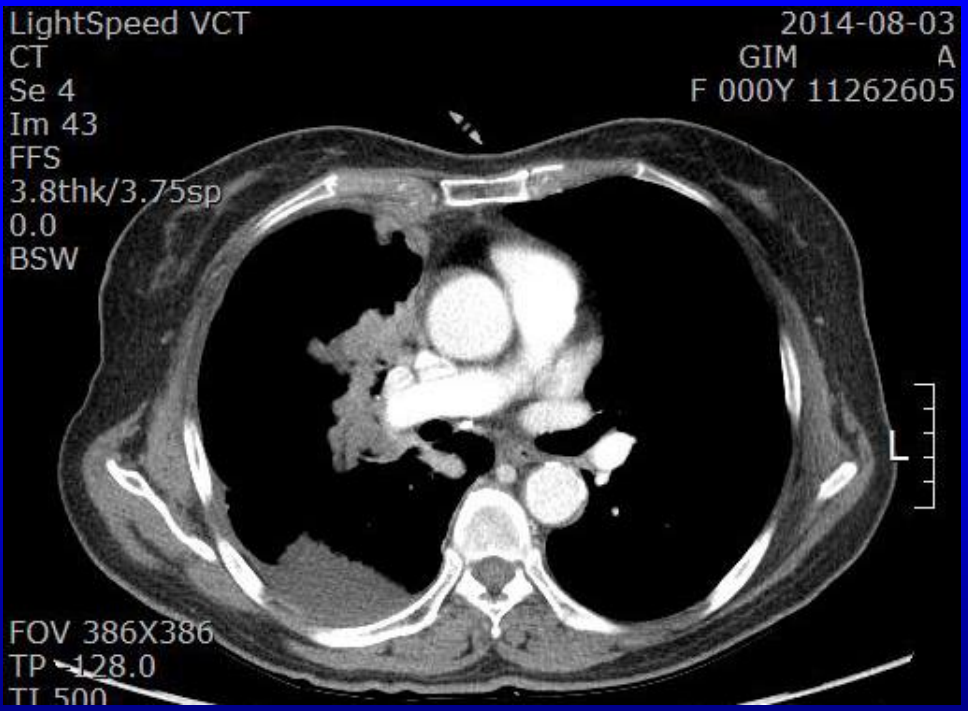
- Bevacizumab/carboplatin/paclitaxel (category 1)[4,e,f,g]
- Bevacizumab/carboplatin/pemetrexed[4,e,f,g]
- Bevacizumab/cisplatin/pemetrexed[6,e,f,g]
- Carboplatin/albumin-bound paclitaxel (category 1)[7]
- Carboplatin/docetaxel (category 1)[8]
- Carboplatin/etoposide (category 1)[9,10]
- Carboplatin/gemcitabine (category 1)[11]
- Carboplatin/paclitaxel (category 1)[12]
- Carboplatin/pemetrexed (category 1)[13]
- Cisplatin/docetaxel (category 1)[8]
- Cisplatin/etoposide (category 1)[14]
- Cisplatin/gemcitabine (category 1)[12,15]
- Cisplatin/paclitaxel (category 1)[16]
- Cisplatin/pemetrexed (category 1)[15]
- Gemcitabine/docetaxel (category 1)[17]
- Gemcitabine/vinorelbine (category 1)[18]

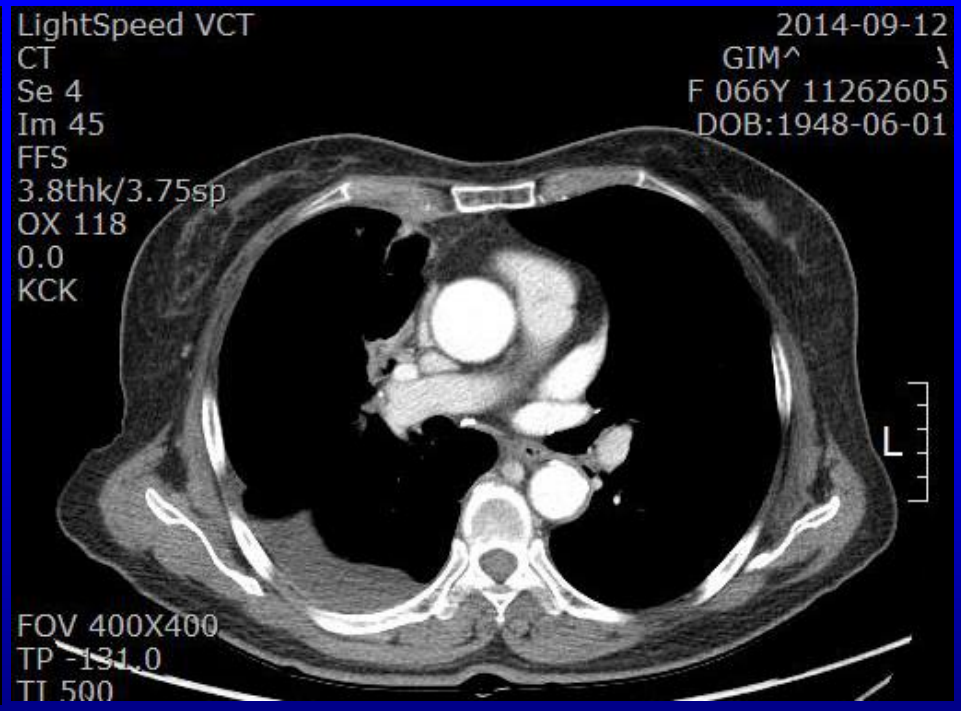
Adenocarcinoma, Large Cell, NSCLC NOS (PS 2)

- Albumin-bound paclitaxel[19]
- Carboplatin/albumin-bound paclitaxel[20,21]
- Carboplatin/docetaxel[8]
- Carboplatin/etoposide[9,10]
- Carboplatin/gemcitabine[11]
- Carboplatin/paclitaxel[12]
- Carboplatin/pemetrexed[13]
- Docetaxel[22,23]
- Gemcitabine[24-26]
- Gemcitabine/docetaxel[17]
- Gemcitabine/vinorelbine[18]
- Paclitaxel[27-29]
- Pemetrexed[30]

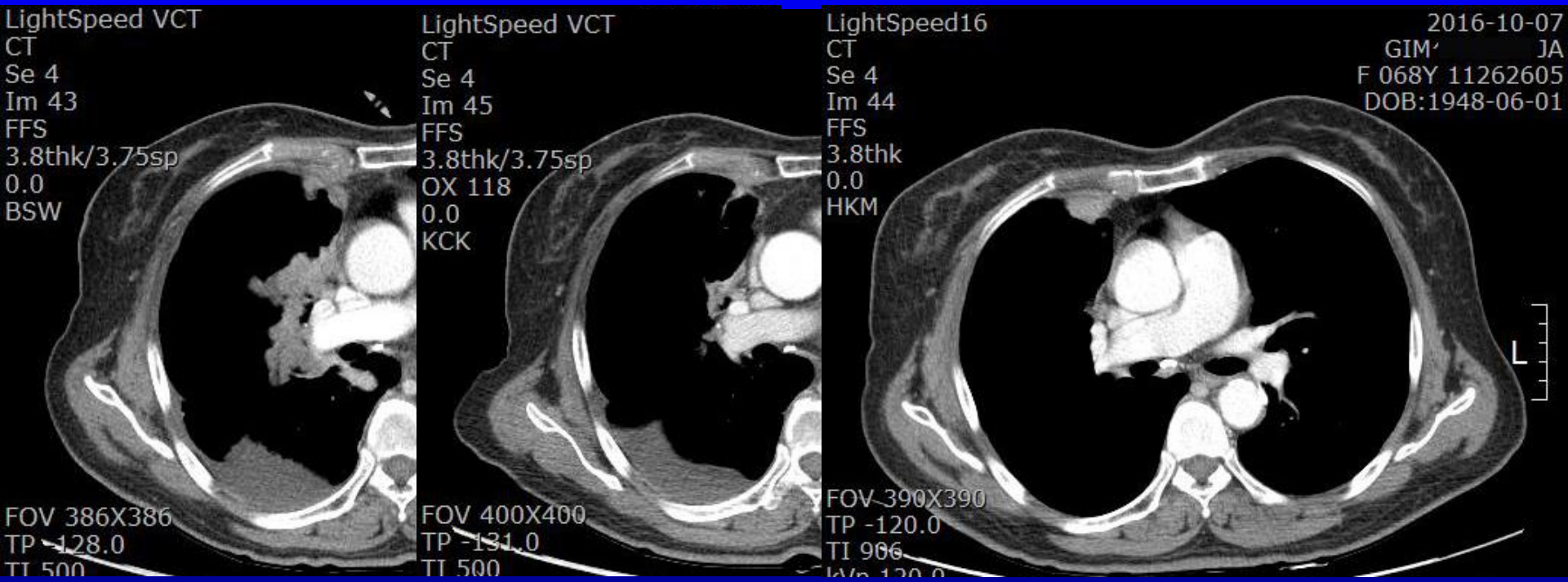

LCA EMR(w_lungcancer_emr)
화순본원 치과빛고
Common PD CS LCA Summary Medicine Surgery RO PFT VTE SPN
등록번호 11262605 인적사항 김 71.02 F 480601 - 255**** 조직형 ADC 진단일 2014.07.31
01- AP
01- AP
01- AP
01- AP
01- A
1. 명칭 및 투여일
flowsheet
Line 1 Name AP Cycle 2
치료개시의사 오인재
투여일 2014.09.03
Stamp
목적 선행 보조 고식 근치적 구제
2. 약물 및 용량
Age 66 Sex F Wt 60 kg Ht 156 cm
Day 0 Lab:
WBC 5800 ANC 2.74 x10³/uL
Hb 13.4 Plt 350 x10³/uL
GOT 19 GPT 16
Creatinine 0.8 (1이하는 1로 입력)
BSA 1.61 GFR 65.52
외래경과기록첨부
A 500 mg/m² 100 % 투여량: 805 D 1
P 60 mg/m² 100 % 투여량: 96.6 D 1
0 mg/m² 0 % 투여량: 0 D
90.52 * 0 * 0 % 투여량: 0 D
항구토제 EMEND
보조약물
chemoport
3. Toxicity Evaluation (치료 후 1-2주 사이 최저값)
외래경과기록첨부
Anorexia [0] none
Weight Loss [0] <5%
Nausea [0] none
Vomiting [0] none
Myalgia/Arthralgia [0] none
Fatigue [0]
Neuropathy [0] normal
Alopecia [0]
diarrhea 0
Rash [0]
Febrile neutropenia [0]
Infection [0]
others
Hb [0] 정상
WBC [0] 정상
ANC [0] 정상
Plt [0] 정상
LFT
Cr [0] 정상
4. Response Evaluation (기간 중 best score) (d
외래경과기록첨부
ECOG PS
Pain(NRS)
Dyspnea(MRC)
cough
Sputum
others
Tumor size(mm):
T1: 0 T2: 0 0
new lesion
반응평가(RECIST) PR
5. 다음 치료 계획
Next schedule 지속
중단이유
comment
결정의사 김영철
확인날짜 2014.09.15
Stamp
PD EMR
검색
Download
조회 F6
수진내역조회
Labo 결과
방사선 결과
병리 결과
미생물 결과
출력 F9
삭제 F4
Clear F11
입력 F3
신문
PD+CS
CS
PD
신문조회
신문출력

66, F, ADC, T4, N2, M1a
EGFR (w), ALK FISH (-),
→ Pem-Cis 2x from 2014 Aug

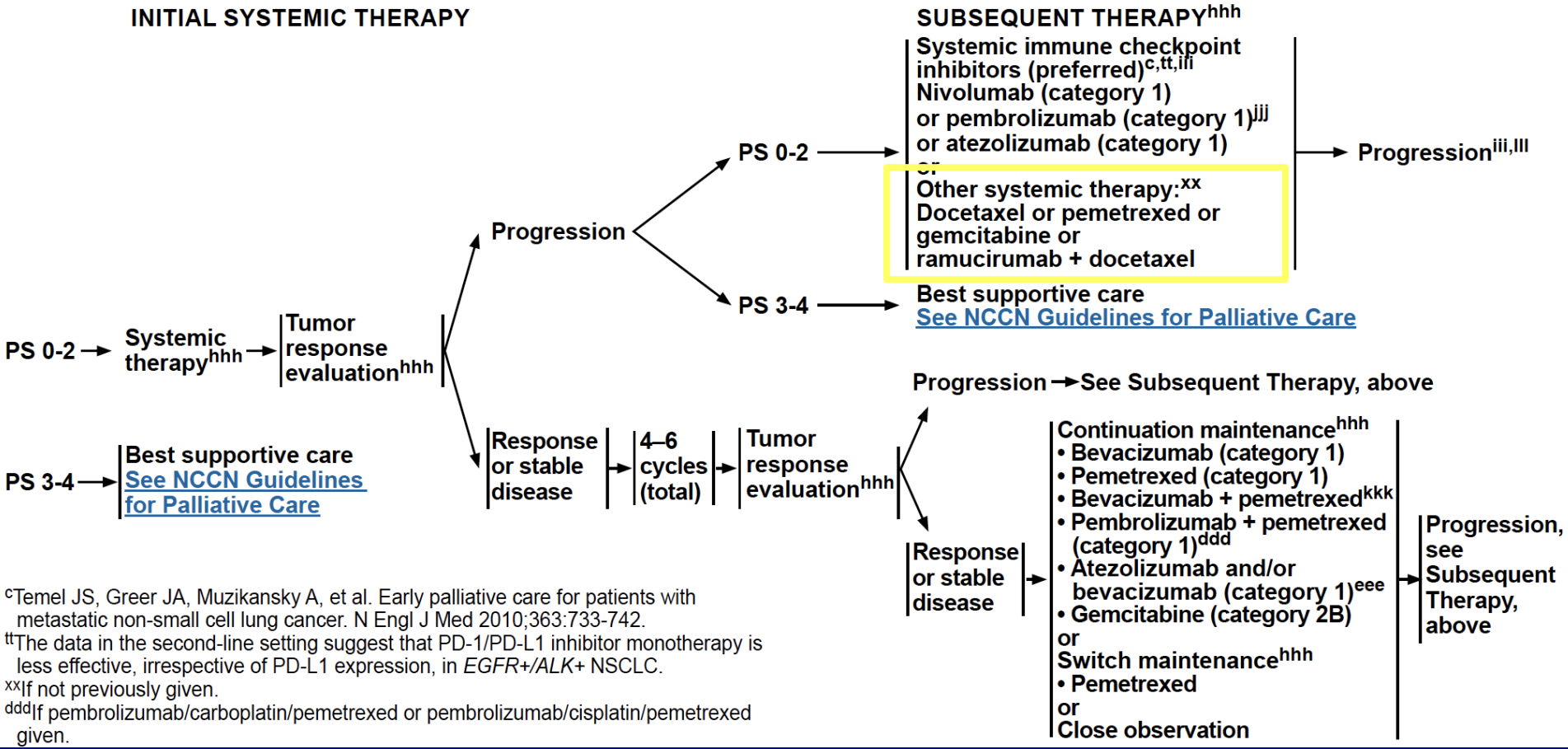




66, F, ADC, T4, N2, M1a
EGFR (w), ALK FISH (-),
→ 1-AP 28x : 2014 Aug ~ 2016 Sep



ADENOCARCINOMA, LARGE CELL, NSCLC NOS

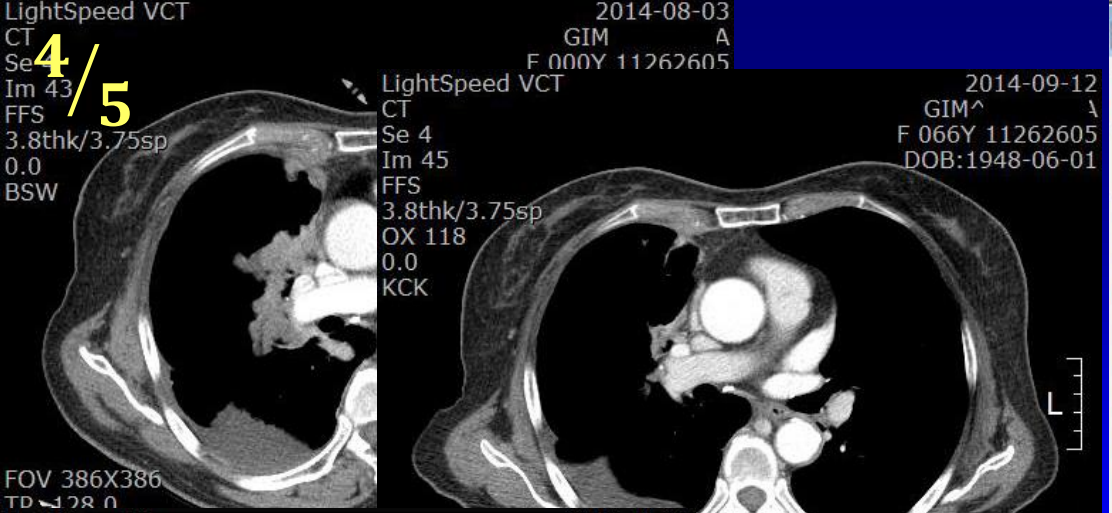


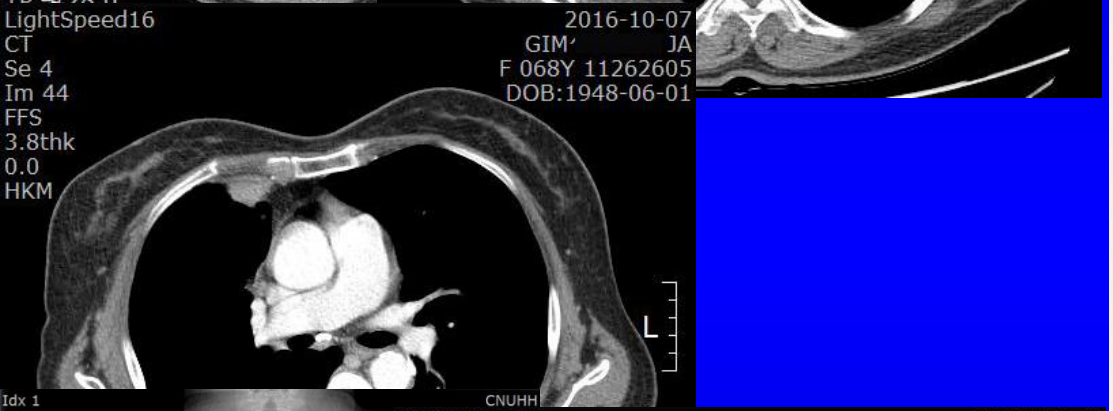
[c]Temel JS, Greer JA, Muzikansky A, et al. Early palliative care for patients with metastatic non-small cell lung cancer. N Engl J Med 2010;363:733-742.

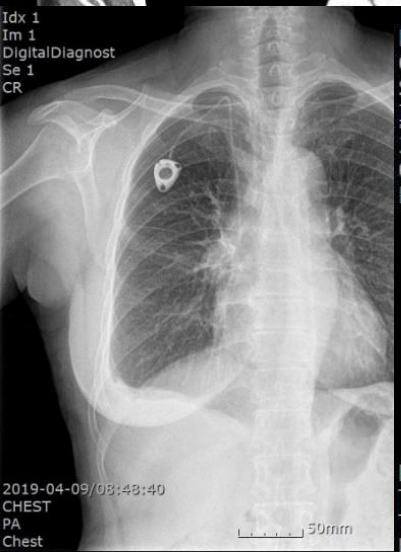
[tt]The data in the second-line setting suggest that PD-1/PD-L1 inhibitor monotherapy is less effective, irrespective of PD-L1 expression, in *EGFR+/ALK+* NSCLC.

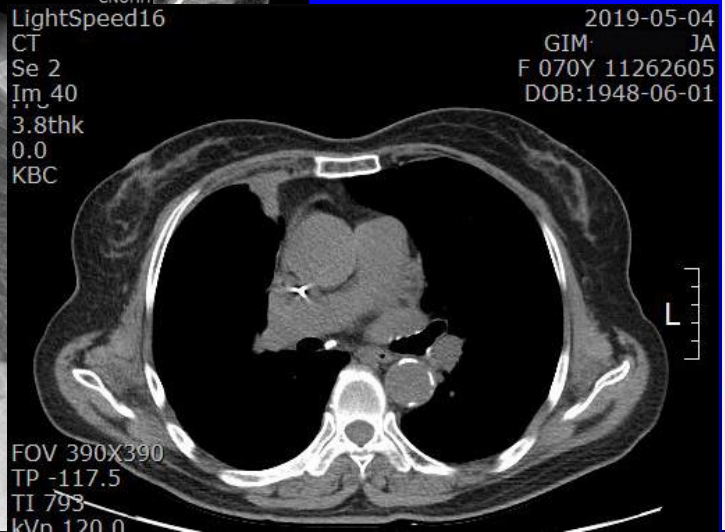
[xx]If not previously given.

[ddd]If pembrolizumab/carboplatin/pemetrexed or pembrolizumab/cisplatin/pemetrexed given.









LCA EMR(w_lungcancer_emr)

화순본원 치과빛고 ○ Common ○ PD ○ CS ○ LCA ○ Summ

등록번호 11262605 인적사항 김[redacted] 71.02 F 480

01-	A	-
01-	A	-
01-	A	-
01-	A	-
02-	G	-
02-	G	-
02-	G	-
02-	G	-
02-	G	-
02-	G	-
02-	G	-
02-	G	-
02-	G	-
02-	G	-
02-	G	-
02-	G	-
02-	G	-
02-	G	-
03-	N	-
03-	N	-
03-	N	-
03-	N	-
03-	N	-
03-	N	-
03-	N	-
03-	N	-
03-	N	-
03-	N	-
03-	N	-
03-	N	-
03-	N	-

1. 명칭 및 투여일 flowsheet

Line 3 Name N Cycle 14

치료개시의사 김영철

투여일 2019.07.02 2019.07.16 . . Stamp

목적 ○ 선행 ○ 보조 ● 고식 ○ 근치적 ○ 구제

2. 약물 및 용량

Age 71 Sex F Wt 64 kg Ht 156 cm

Day 0 Lab:

WBC 7400 ANC 3.99 x10³/uL

Hb 13.0 Plt 365 x10³/uL

GOT 16 GPT 13

Creatinine 0.7 (1이하는 1로 입력)

BSA 1.67 GFR 74.48 외래경과기록첨부

N	30	mg/m²	100	% 투여량:	50.1	D 1,8
		mg/m²		% 투여량:		D
		mg/m²		% 투여량:		D
	99.48	*	*	% 투여량:		D

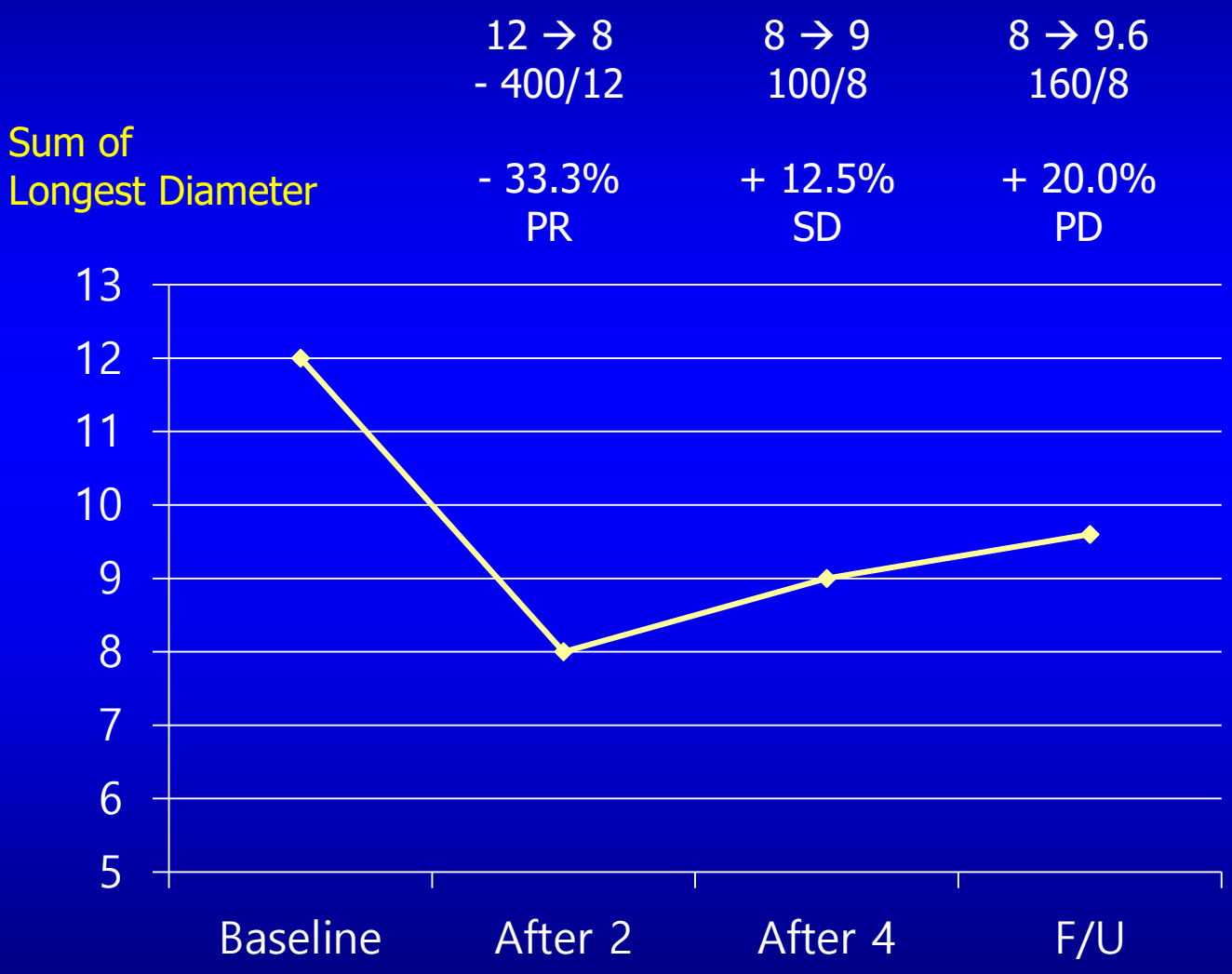
항구토제 others

보조약물

chemoport 2018.06.05 . .

1-AP 28x, 2014~2016
2-G 14x, 2016~2018
3-Vin 15x ongoing

Progression by RECIST



기준 시점

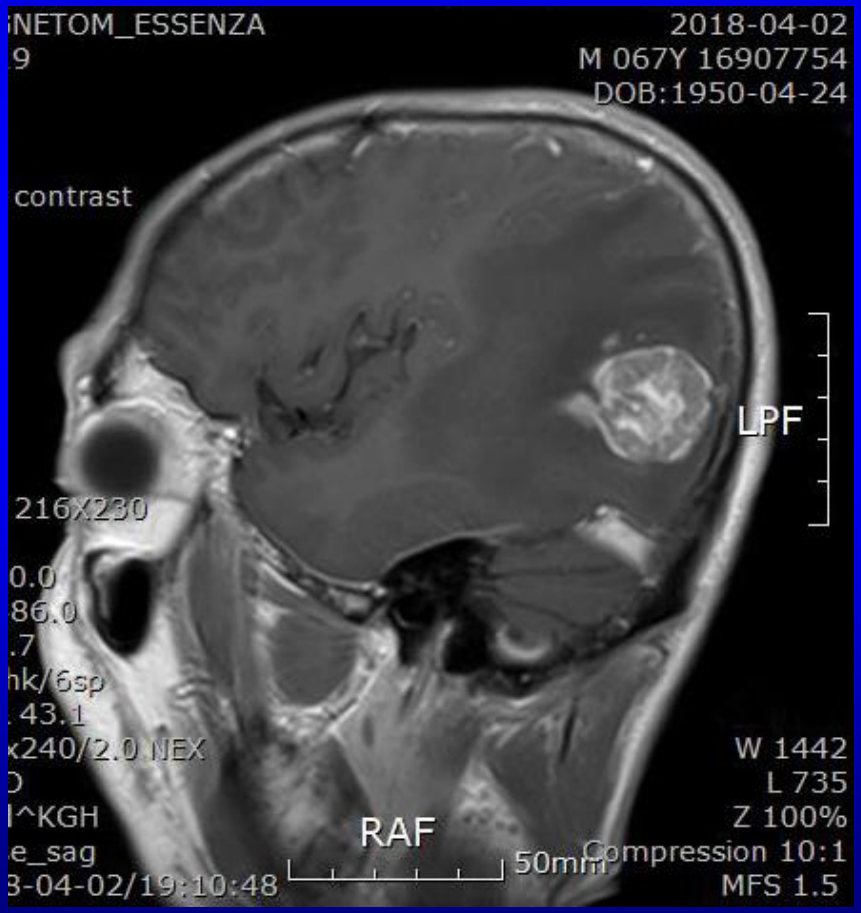
Response :
Baseline

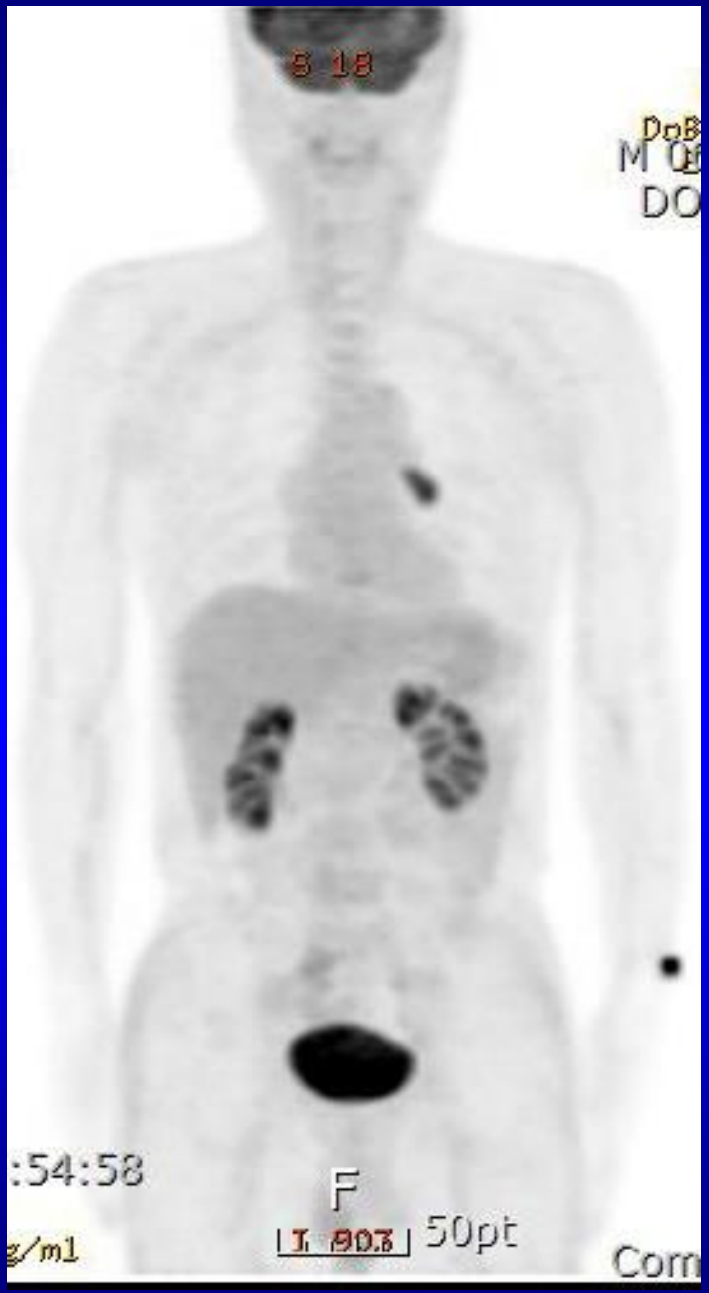
Progression :
Nadir diameter

5 Cases

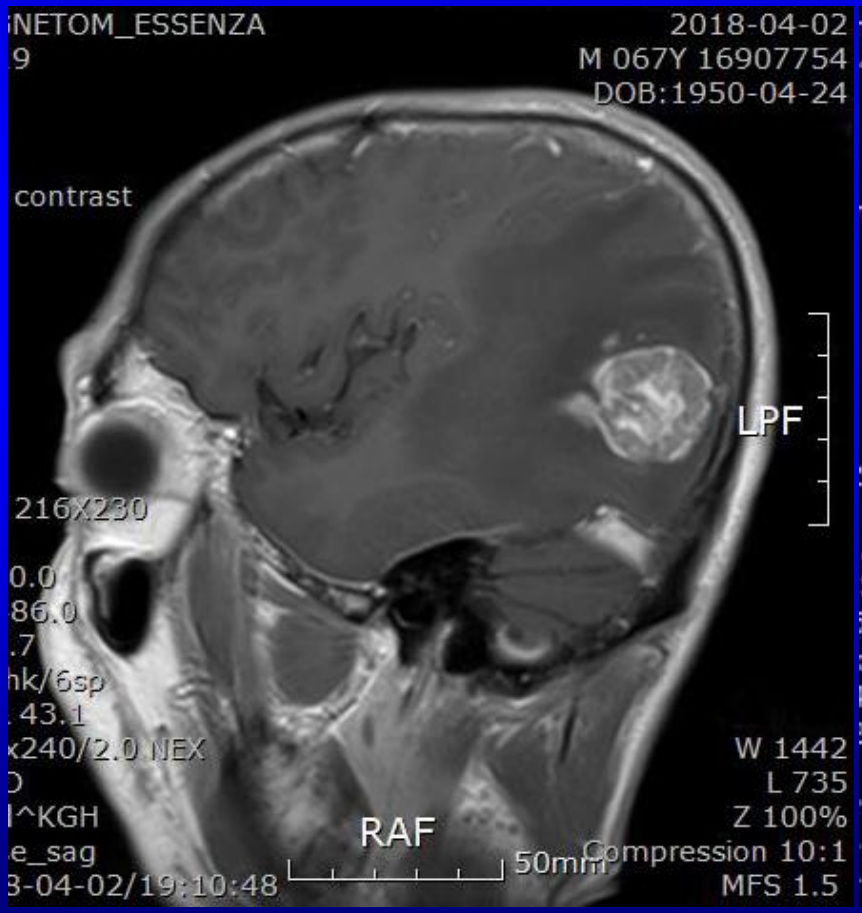
- 1/5. Small Cell Ca. Limited Stage
  - Neutropenia, Anemia, PCI
- 2/5. Small Cell Ca. Extensive Stage
  - Safety guideline, Antiemetics
- 3/5. Squamous Cell Ca. IV
  - Extravasation
- 4/5. Adenocarcinoma. IV
  - Response evaluation
- 5/5. Adenocarcinoma. IV
  - Adding Local Treatment

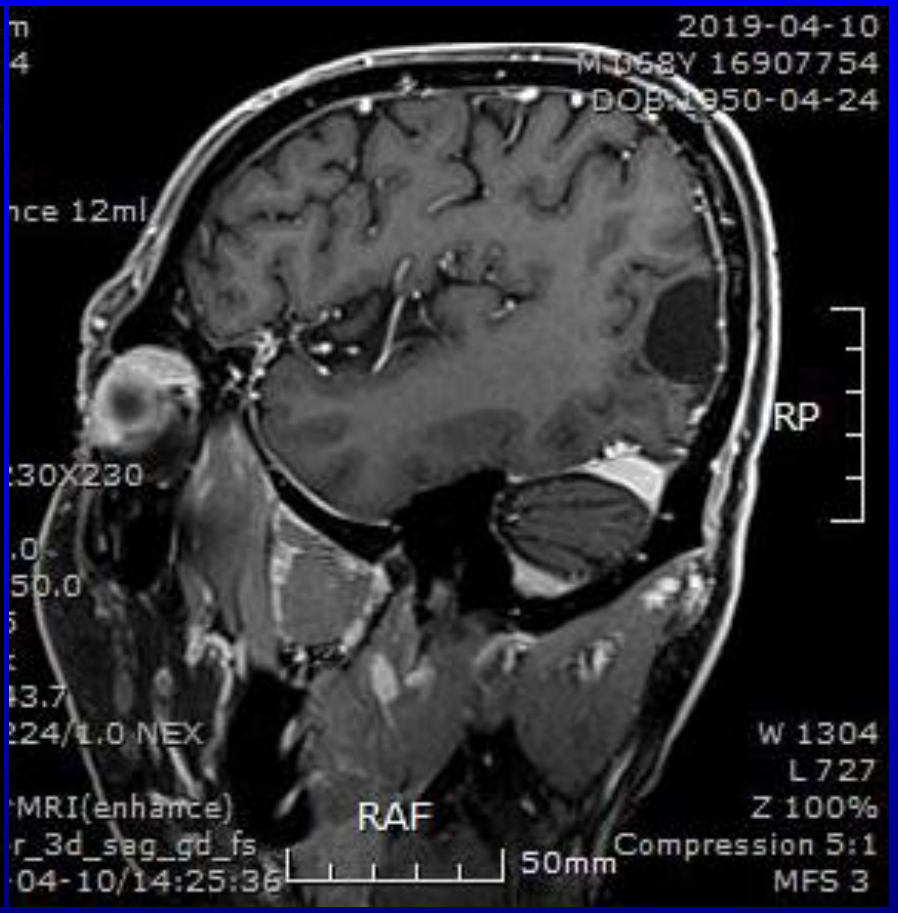
68/M Adenocarcinoma 2018 Apr
EGFR/ALK : -/-
Craniotomy TR 2018 Apr





68/M Adenocarcinoma 2018 Apr
EGFR/ALK : -/-
Craniotomy TR 2018 Apr
1- Pem-Cis 4x





original report abstract

Local Consolidative Therapy Vs. Maintenance Therapy or Observation for Patients With Oligometastatic Non–Small-Cell Lung Cancer: Long-Term Results of a Multi-Institutional, Phase II, Randomized Study

PURPOSE Our previously published findings reported that local consolidative therapy (LCT) with radiotherapy or surgery improved progression-free survival (PFS) and delayed new disease in patients with oligometastatic non–small-cell lung cancer (NSCLC) that did not progress after front-line systemic therapy. Herein, we present the longer-term overall survival (OS) results accompanied by additional secondary end points.

PATIENTS AND METHODS This multicenter, randomized, phase II trial enrolled patients with stage IV NSCLC, three or fewer metastases, and no progression at 3 or more months after front-line systemic therapy. Patients were randomly assigned (1:1) to maintenance therapy or observation (MT/O) or to LCT to all active disease sites. The primary end point was PFS; secondary end points were OS, toxicity, and the appearance of new lesions. All analyses were two sided, and *P* values less than .10 were deemed significant.

CONCLUSION In patients with oligometastatic NSCLC that did not progress after front-line systemic therapy, LCT prolonged PFS and OS relative to MT/O.

J Clin Oncol 37:1558-1565.

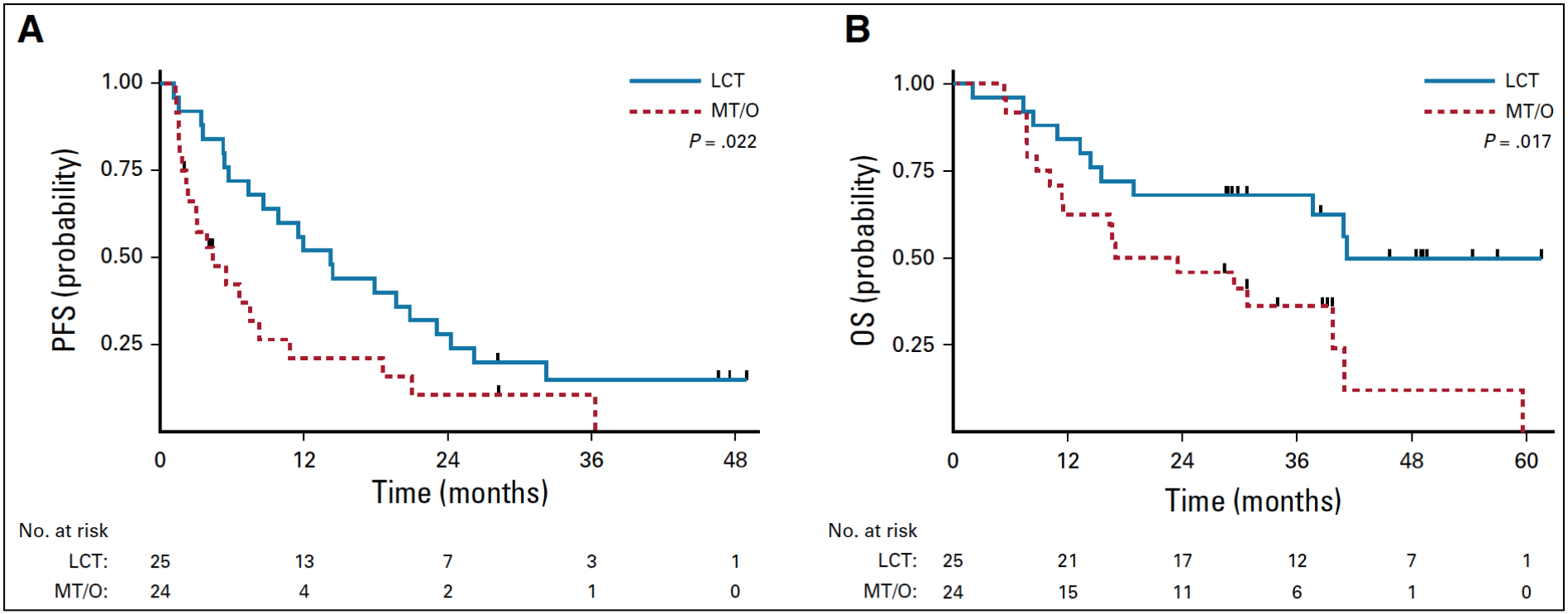


FIG 1. (A) Progression-free survival (PFS) and (B) overall survival (OS) in patients given local consolidative therapy (LCT) or maintenance therapy or observation (MT/O) for oligometastatic non–small-cell lung cancer.

등록번호 16907754 | 인적사항 윤[redacted] | 69 | M | 주민번호 500424 - 1****** | 저장 F2 | 신규작성 | Excel | 환자조회

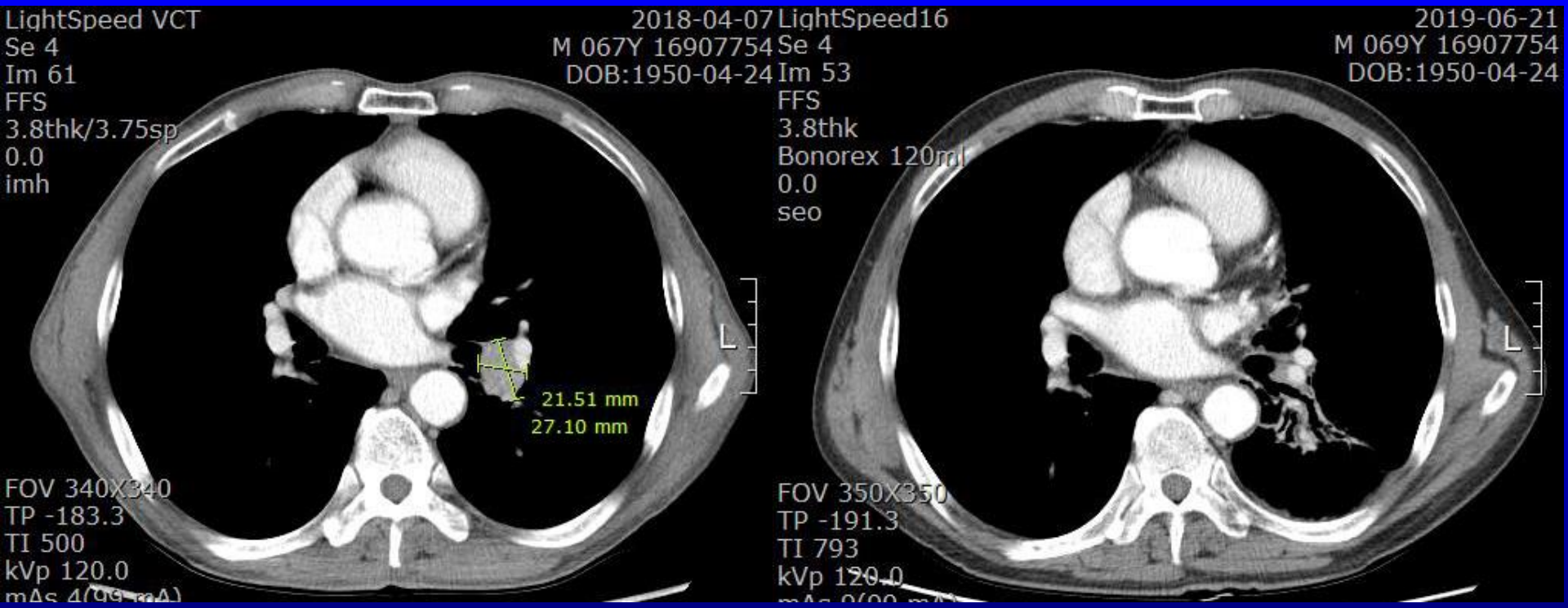
tr#	Start Date
1	2018.07.23

특이사항 총15회 예정
Dmax (C1-109%, 15회)

특이사항입력 | 확대

#	DATE	No. Tx	RT. DAY	AREA	Cal Co.	ENERGY	PORT	PORT Field	TECH.COMMENT	weekly EPI	Daily Does (cGy)	Total Dose (cGy)	방사선사 서명	주치의 서명	Edi Fla
1	2018.07.23	1	1	chest-l	0	10MV	5	Oblique	, 2치료실 T-7212	confirm	400	400	최광명	안성자	O
2	2018.07.24	2	2	chest-l	0	10MV	5	Oblique			400	800	최광명	안성자	O
3	2018.07.25	3	3	chest-l	0	10MV	5	Oblique			400	1200	최광명	안성자	O
4	2018.07.26	4	4	chest-l	0	10MV	5	Oblique			400	1600	최광명	안성자	O
5	2018.07.27	5	5	chest-l	0	10MV	5	Oblique			400	2000	최광명	안성자	O
6	2018.07.30	6	8	chest-l	0	10MV	5	Oblique		2	400	2400	최광명	안성자	O
7	2018.07.31	7	9	chest-l	0	10MV	5	Oblique			400	2800	최광명	안성자	O
8	2018.08.01	8	10	chest-l	0	10MV	5	Oblique			400	3200	최광명	안성자	O
9	2018.08.02	9	11	chest-l	0	10MV	5	Oblique			400	3600	최광명	안성자	O
10	2018.08.03	10	12	chest-l	0	10MV	5	Oblique			400	4000	최광명	안성자	O
11	2018.08.06	11	15	chest-l	0	10MV	5	Oblique		2	400	4400	최광명	안성자	O
12	2018.08.07	12	16	chest-l	0	10MV	5	Oblique			400	4800	최광명	안성자	O
13	2018.08.08	13	17	chest-l	0	10MV	5	Oblique	15fx. RT종료.		400	5200	최광명	안성자	O
14	2018.08.09	14	18	chest-l	0	10MV	5	Oblique			400	5600	최광명	안성자	O
15	2018.08.10	15	19	chest-l	0	10MV	5	Oblique			400	6000	최광명	안성자	O

68/M Adenocarcinoma 2018 Apr
EGFR/ALK : -/-
Craniotomy TR 2018 Apr
1- Pem-Cis 4x, Pememetrexed maintenance till now.



Contents

- Armamentarium
- Checklist before Chemotherapy
  - Safety Guideline
- Choosing a Regimen
- AE or Toxicity Management
  - Antiemetics, Extravasation
  - Neutropenia, Anemia
- Response eval. & Second Line Treatment
- Switch to End-of-Life Treatment

original re abstract

Rising and Falling Trends in the Use of Chemotherapy and Targeted Therapy Near the End of Life in Older Patients With Cancer

PURPOSE End-of-life (EOL) chemotherapy has been described as the most widespread, wasteful, and unnecessary practice in oncology, with benchmarking aimed to reduce physician use of chemotherapy within 14 days of EOL. We evaluated the recent transformation of EOL chemotherapy and targeted therapy practices nationally.

METHODS In patients older than 65 years of age who died as a result of breast (n = 19,887), lung (n = 79,613), colorectal (n = 29,844), or prostate (n = 17,910) cancer between 2007 and 2013, we evaluated the guideline-benchmarked measure of chemotherapy use within 14 days of EOL in SEER-Medicare. Comparison outcomes were nonbenchmarked measures of chemotherapy and targeted therapy across time points within 6 months of EOL. Cochran-Armitage test was used to evaluate temporal trends. Multilevel logistic models and intraclass correlation coefficient was used to evaluate variation in EOL chemotherapy use at the physician level.

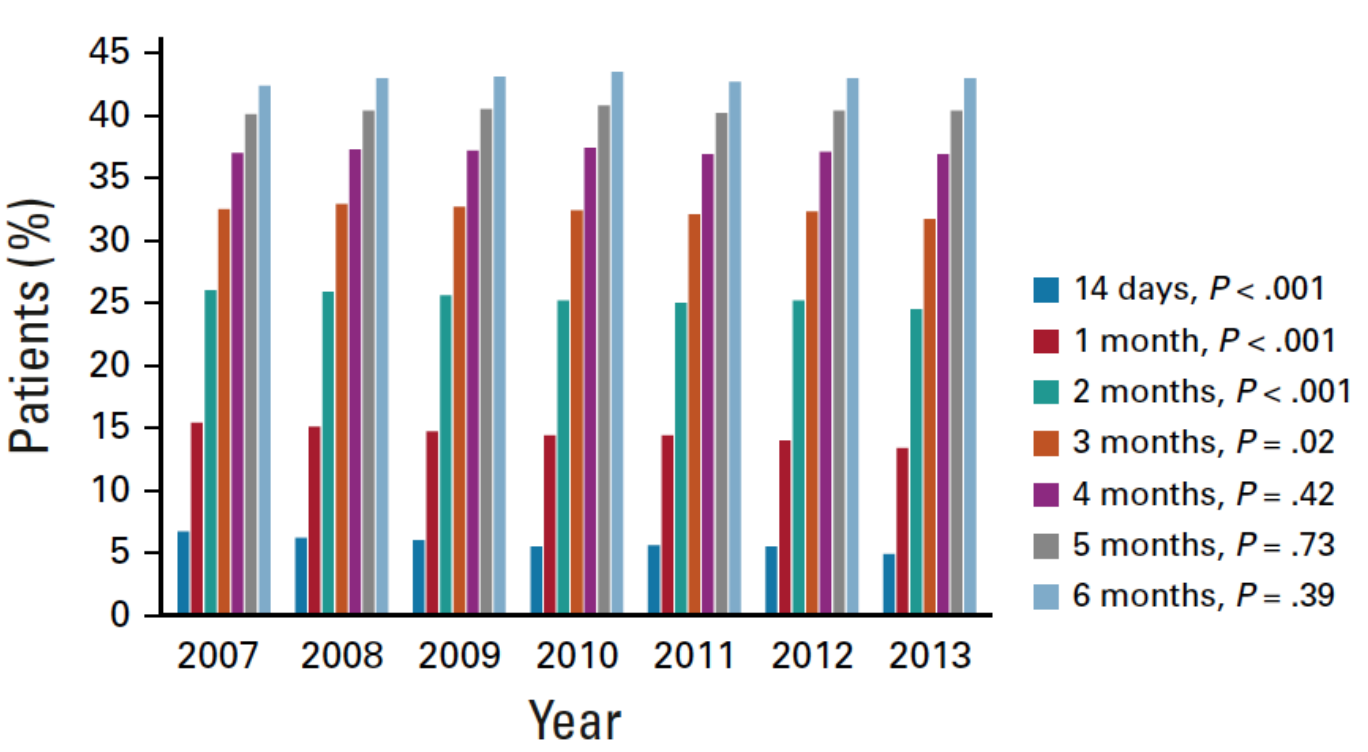
CONCLUSION With national benchmarking, chemotherapy within 14 days of EOL successfully declined to less than 5%, with comprehensive benchmark uptake by physicians. Results may inform current strategies to help to achieve high-value EOL oncology practice.

J Clin Oncol 37:1721-1731.

Quality practice benchmarks established in 2012 by
National Quality Forum and ASCO Quality Onology Practice Initiative

Focus on minimizing **chemotherapy in the last 14 days of life**.

Final Rule of Centers for Medicare & Medicaid Services (CMS) 2018
Chemo use in Last 14 days - Key Clinical Process Quality measure



정부 지원

암사망자 호스피스 이용율 : 2016 (17.5%), 2017 (22%)

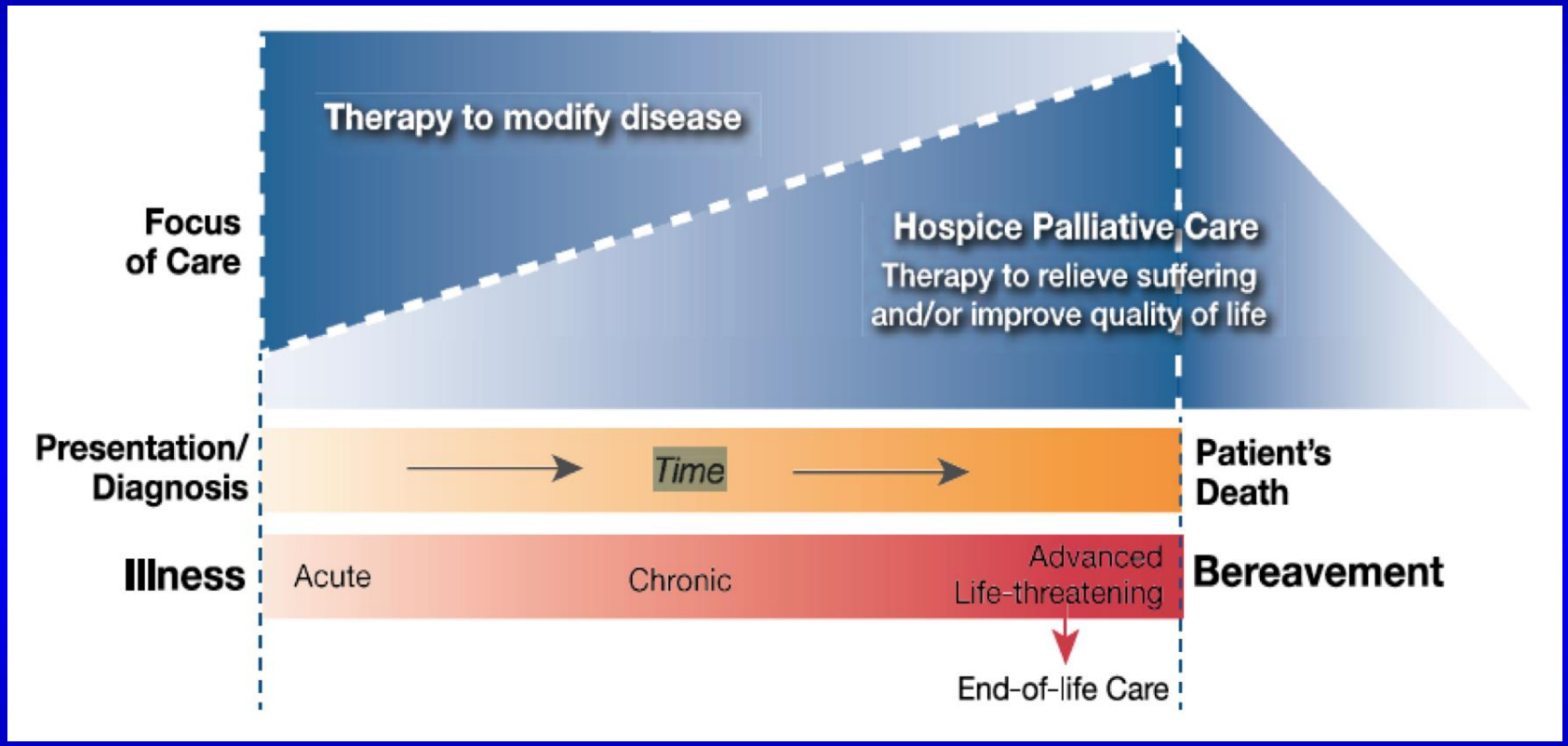
입원, 가정, 자문, 요양병원 : ? 콜센터 운영

환자와 가족

부정적 인식 → 홍보, 교육

의료인들의 태도

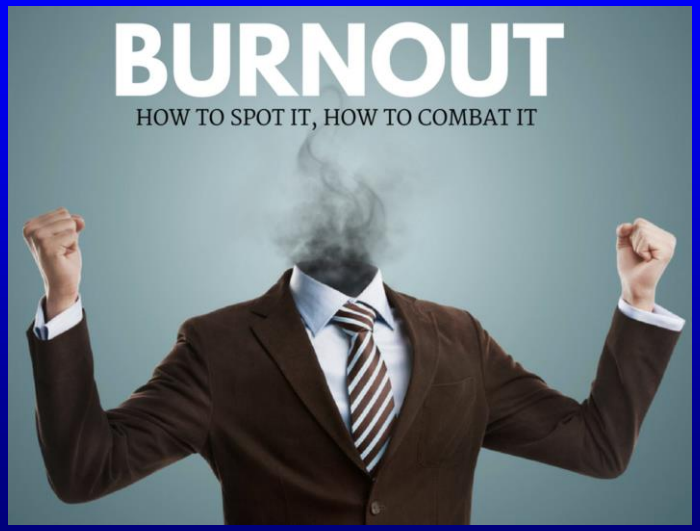
Hospice 평균 생존 < 1 → Early Intervention



Canadian Hospice Palliative Care Nursing Standards Committee. (2014). *Canadian hospice palliative care nursing standards of practice.* Retrieved from http://www.chpca.net/interest_groups/nurses_ig.html

Role of Lung Physician

Screen → **Diagnosis** → **MDT decision** → **Surgery**, **Radiation**, **Medicine** → **End of Life Care**



Safety Standard

- Qualification & Education
- Informed Consent
- Double Check Routine

AE management

- Extravasation, CINV
  - Prevention & Prompt Care
- Anemia, Neutropenia
  - Proper use of stimulants

Prepare End of Life Care

- From Diagnosis to Bereavement

Team Approach