高 雄 榮 民 總 醫 院

肺癌診療原則

（ 非小 細 胞 癌 ）

2022年02月09日 第一版

肺癌醫療團隊擬訂

注意事項：這個診療原則主要作為醫師和其他保健專家診療癌症病人參考之用。假如你是一個癌症病人，直接引用這個診療原則並不恰當，只有你的醫師才能決定給你最恰當的治療。

修訂指引

- 本共識依下列參考資料修改版本
  - □: NCCN Clinical Practice Guideline in Oncology™ ,NSCLC, V1.2022

會議討論(一)

上次會議：2021/02/24

本共識與上一版的差異

上一版	新版
1. 無。(p. 6-13, 16) 2. 無。(p. 7, 8, 10, 26) 3. 無。(p. 7, 8, 10, 26) 4. 原Margin (-) (R0): C/T or TKI advised for Pts with high risk features ±R/T (p.10) 5. 無。(p.13) 6. 無。(p.14) 7. 無。(p.14) 8. 無。(p.14) 9. 無。(p.15) 10. 無。(p.15) 11. 無。(p.15) 12. 無。(p.16, 19, 21) 13. Continuation maintenance: Pembrolizumab, Gemcitabine (p.17)	1. 新增:檢體 BRAF IHC 檢測 (p. 6-13, 16) 2. 新增:術後抗腫瘤治療 Atezolizumab (p. 7, 8, 10, 26) 3. 新增:術後抗腫瘤治療 Osimertinib (Exon 19 del or L858R) (p. 7, 8, 10, 26) 4. Margin (-) (R0): C/T or TKI ~~advised for Pts with high risk features ±~~ R/T (p.10) 5. 新增: Bone metastases (p.13) 6. 新增: S768I, L861Q, G719X (p.14) 7. 新增: Exon 20 insertion, Platinum-based chemotherapy +/- Bevacizumab, Amivantamab-vmjw or Mobocertinib. (p.14) 8. 新增: KRAS G12C, Platinum-based chemotherapy +/- Bevacizumab, Sotorasib. (p.14) 9. 新增: NTRK 1/2/3 fusion positive, Larotrectinib, Entrectinib, Platinum-based chemotherapy +/- Bevacizumab. (p.15) 10. 新增: MET exon14 skipping, Capmatinib, Tepotinib, Crizotinib, Platinum-based chemotherapy +/- Bevacizumab. (p.15) 11. 新增: RET rearrangement positive, Selpercatinib, Pralsetinib, Cabosantinib, Platinum-based chemotherapy +/- Bevacizumab. (p.15) 12. 新增: Nivolumab/Ipilimumab (p.16, 19, 21) 13. 新增: Pembrolizumab ± Pemetrexed, Atezolizumab ± Bevacizumab, Nivolumab/Ipilimumab, Pemetrexed, Bevacizumab ± Pemetrexed (p.17)

會議討論(二)

上次會議：2021/02/24

本共識與上一版的差異

上一版	新版
14. 無。(p.19) 15. 無。(p.20) 16. 原維持治療處方 *Erlotinib 150 mg PO QD; *Docetaxel 30 mg/m2, IV, D1,8,15. (p.21) 17. 無。(p.23) 18. 無。(p.27)	14. 新增: Dabrafenib 150 mg PO bid + trametinib 2mg PO qd; Vemurafenib 960 mg PO bid; Larotrectinib 100 mg PO bid; Capmatinib 400 mg PO bid; Tepotinib 450 mg PO qd. (p.19) 15. 新增: Selpercatinib 120 mg PO bid (< 50 kg) or 160 mg PO bid (≥ 50 kg); Pralsetinib 400 mg po qd; Cabosantinib 60 mg PO qd. (p.20) 16. 刪除*Erlotinib 150 mg PO QD (p.21) 17. 新增: Amivantamab-vmjw 1,050 mg (1,400 mg, ≥ 80 kg) given once weekly for the first 4 weeks and then once every 2 weeks starting at week 5; Mobocertinib 160 mg po qd; Sotorasib 960 mg PO qd (p.23) 18. 新增: Durvalumab 10 mg/kg IV q2w x 12m or 1,500 mg IV q4w x 12m (p.27)

非小細胞肺癌

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臨床診療指引　2022年第一版

診斷	評估	初步治療	輔助治療	追蹤

Stage IA disease (peripheral T1abc,N0)

- 病史，理學檢查
- CXR, Chest CT
- CBC/DC , SMA
- Tumor markers*
- ECG
- 經由痰液、支氣管鏡檢查或影像導引穿刺組織學證實
- 檢體 EGFR mutation 檢測*
- 檢體 ALK IHC 檢測*
- 檢體 ROS1 IHC 檢測*
- 檢體 BRAF IHC 檢測*
- 檢體 PD-L1 檢測*
- 次世代定序癌症基因檢測*
- Brain CT/MR#
- 上腹部超音波#
- 支氣管鏡檢查#
- Bone scan#
- PET-CT#
- Pathologic mediastinal LN evaluation*
- 肺功能檢查

Curative surgery with radical LN dissection or systemic LN sampling

- Margin (+) (R1,R2): Reresection or R/T
- Margin (-) (R0)

Definitive R/T, preferably SABR if not OP

Baseline Chest CT after Tx, Hx, PE and CXR, Tumor markers* Q3-6M x 2 yrs then q6M every yr F/U for 5 yrs

*As clinical indicated

May not needed for GGO lesion

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診斷	評估	初步治療	輔助治療	追蹤

Stage IB/IIA disease

- 病史，理學檢查
- CXR, Chest CT
- CBC/DC , SMA
- Tumor markers*
- ECG
- 經由痰液、支氣管鏡檢查或影像導引穿刺組織學證實
- 檢體 EGFR mutation 檢測*
- 檢體 ALK IHC 檢測*
- 檢體 ROS1 IHC 檢測*
- 檢體 BRAF IHC 檢測*
- 檢體 PD-L1 檢測*
- 次世代定序癌症基因檢測*
- Brain CT/MR#
- 上腹部超音波#
- 支氣管鏡檢查#
- Bone scan#
- PET-CT#
- Pathologic mediastinal LN evaluation*
- 肺功能檢查

Curative surgery with radical LN Dissection or systemic LN sampling. Limited resection If high risk with early localized disease.

- Margin (+) (R1,R2) Reresection ± C/T or R/T ± C/T
- Margin (-) (R0) C/T + *Atezolizumab (IIA, PD-L1 TC ≥1%) advised for Pts with high risk features, or *Osimertinib (Exon 19 del or L858R)

Definitive R/T, preferably SABR if not OP

Adjuvant C/T for high risk features

Best supportive care (BSC)

Baseline Chest CT after Tx,
Hx, PE and CXR,
Tumor markers*
Q3-4M x 2 yr,
then q6M every yr
F/U for 5 yrs

* As clinical indicated, optional treatment. # May not needed for GGO lesion.

- High risk features include poorly differentiated tumors, vascular invasion, wedge resection, tumor > 4 cm, visceral pleural involvement and unknown lymph node status (Nx).

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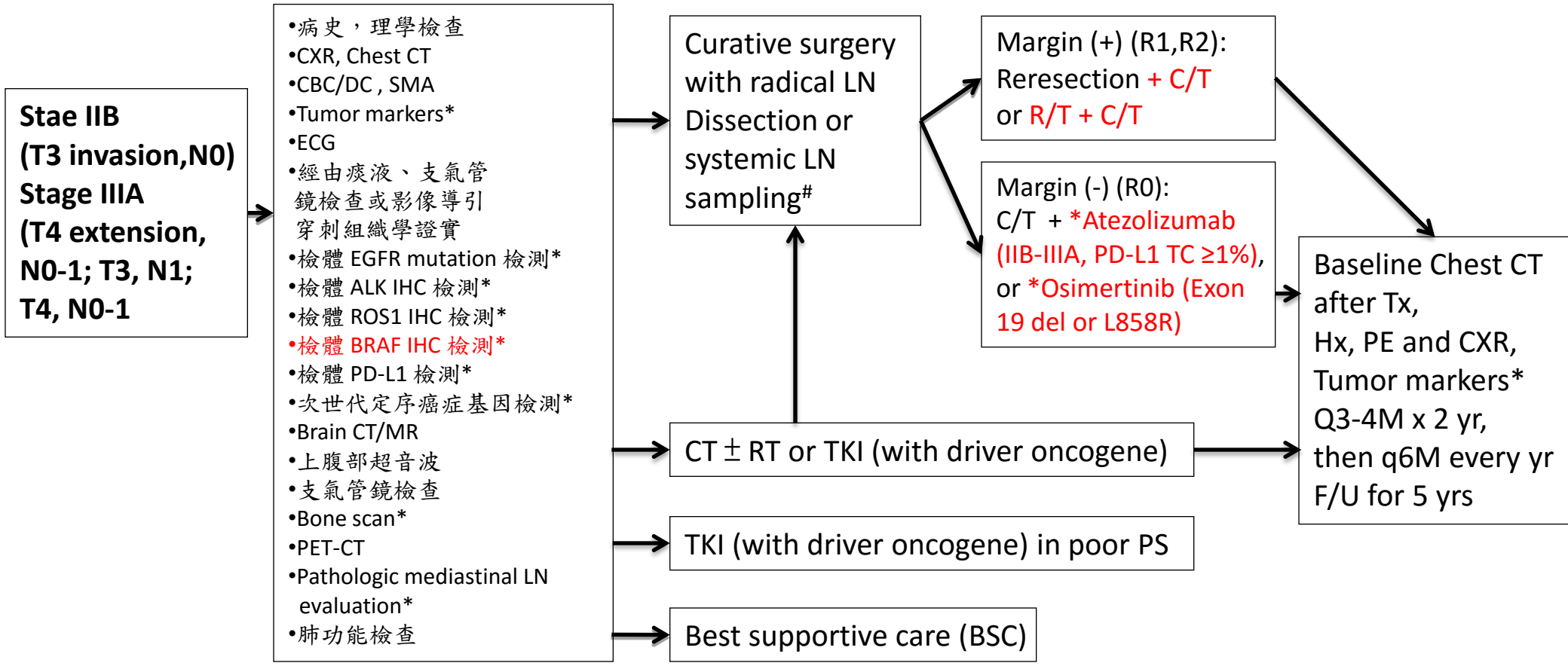
診斷	評估	初步治療	輔助治療	追蹤



*As clinical indicated, optional treatment

Limited resection is appropriate in poor pulmonary reserve or other major comorbidity that contraindicate lobectomy.

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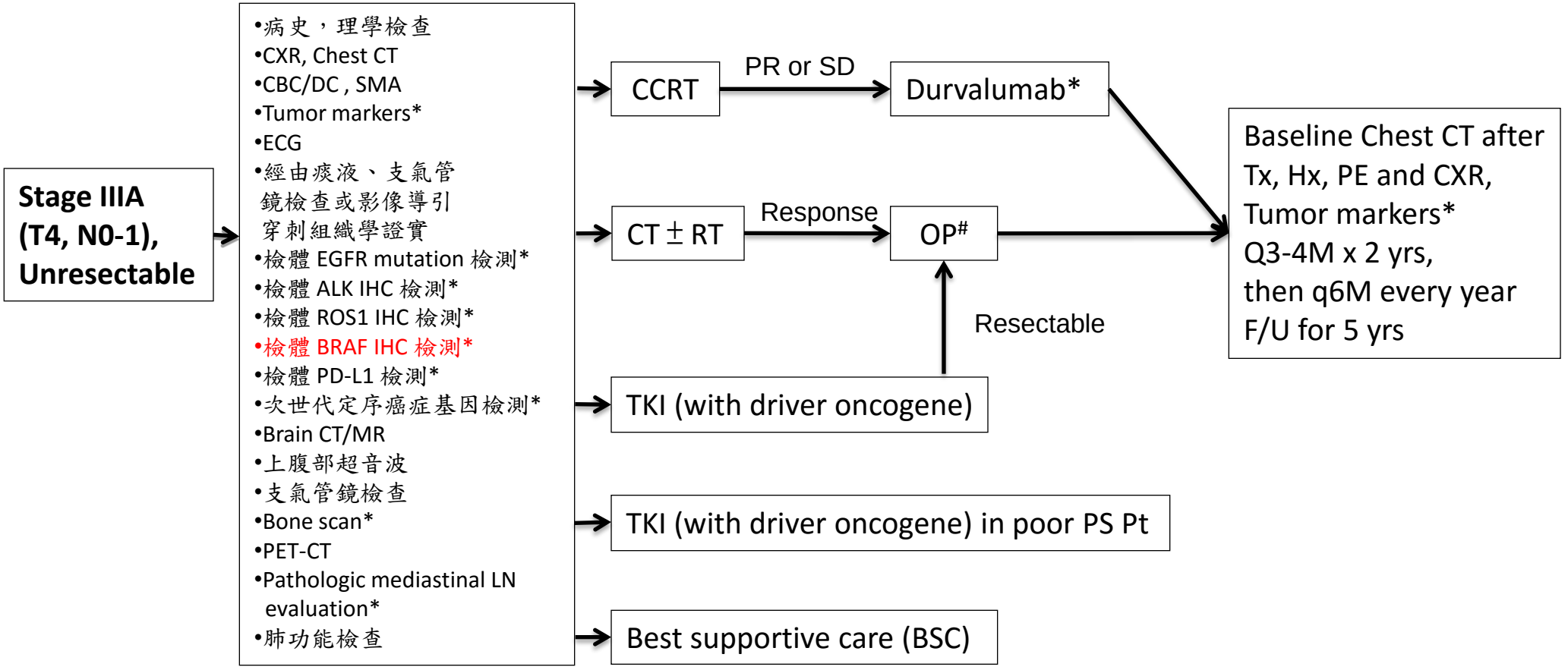
診斷	評估	初步治療	輔助治療	追蹤



*As clinical indicated, optional treatment
Limited resection is appropriate in poor pulmonary reserve or other major comorbidity that contraindicate lobectomy.

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診斷	評估	初步治療	輔助治療	追蹤

Stage IIIA
T1-2, N2
Stage IIIB
T3, N2

- 病史，理學檢查
- CXR, Chest CT
- CBC/DC, SMA
- Tumor markers*
- EKG*
- 經由痰液、支氣管鏡檢查或影像導引穿刺組織學證實
- 檢體 EGFR mutation 檢測*
- 檢體 ALK IHC 檢測*
- 檢體 ROS1 IHC 檢測*
- 檢體 BRAF IHC 檢測*
- 檢體 PD-L1 檢測*
- 次世代定序癌症基因檢測*
- Brain CT/MR
- 上腹部超音波
- 支氣管鏡檢查*
- Bone scan*
- PET-CT*
- Pathologic mediastinal LN evaluation*
- 肺功能檢查*

→ Curative surgery with radical LN Dissection or systemic LN sampling#

Margin (-) (R0):
C/T ± *Atezolizumab,
or *Osimertinib (Exon 19 del or L858R),
or C/T ± R/T

→ Definitive CCRT
PR or SD → Durvalumab*

→ Induction C/T or TKI, ± R/T
No apparent PD → OP ± R/T (if not given)
PD → R/T ± C/T

Margin (-) (R0):
C/T or TKI ± R/T

Hx, PE and CXR, Chest CT
上腹部超音波*
Tumor markers*
q3M x 1 yrs then
q4M x 1 yrs then
q6M every yr
F/U for 5 yrs

→ TKI (with driver oncogene) in poor PS Pt

→ Best supportive care (BSC)

* As clinical indicated, optional treatment.
\# Limited resection is appropriate in poor pulmonary reserve or other major comorbidity that contraindicate lobectomy.

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診斷	評估	初步治療	重新評估	進一步治療	追蹤

Stage IIIB-IIIC
(T4N2, T1-4N3)

- 病史，理學檢查
- CXR, Chest CT
- CBC/DC, SMA
- Tumor markers*
- ECG*
- 經由痰液、支氣管鏡檢查或影像導引穿刺或表淺淋巴結抽吸組織學證實
- 檢體 EGFR mutation 檢測*
- 檢體 ALK IHC 檢測*
- 檢體 ROS1 IHC 檢測*
- 檢體 BRAF IHC 檢測*
- 檢體 PD-L1 檢測*
- 次世代定序癌症基因檢測
- Pathologic mediastinal LN evaluation*
- Brain CT/MR
- 上腹部超音波
- 支氣管鏡檢查*
- Bone scan
- PET-CT*
- 肺功能檢查*

EGFR mutant → CCRT or EGFR TKI ± R/T
- PD → Osimertinib if T790M detected or C/T
- PD → ALK TKI or C/T
- PR or SD → Durvalumab*#

ALK rearrangement → CCRT or ALK TKI ± R/T
- PR or SD → Durvalumab*#

Pan wild type → Definitive CCRT or C/T
- PR or SD → Durvalumab*#

Definite CCRT → PR or SD → Durvalumab#

Durvalumab*# → 病史，理學檢查
CXR,
tumor markers*
q3M x 1 yr, then
q4M x 1 yr, then
Q6M x 3yrs

Best supportive care (BSC)

* As clinical indicated, optional treatment
\# Durvalumab 10 mg/kg IV q2w x 12 m,
or Durvalumab 1,500 mg IV q4w x 12m

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診斷	評估	治療	重新評估	治療

Stage IVA,B M1a M1b M1c

- 病史，理學檢查
- CXR
- Chest CT
- CBC/DC, SMA
- Tumor markers*
- EKG*
- 經由痰液、肋膜積液、支氣管鏡檢查或影像導引穿刺或表淺淋巴結抽吸組織學證實
- 檢體 EGFR mutation檢測*
- 檢體 ALK IHC 檢測*
- 檢體 ROS1 IHC 檢測*
- 檢體 BRAF IHC 檢測*
- 檢體 PD-L1 檢測*
- 次世代定序癌症基因檢測*
- 上腹部超音波檢查
- Bone scan *
- Brain CT/MRI
- PET-CT*

Solitary brain / adrenal metastasis with resectable lung lesion (N0)

- Brain → Lung OP, and Brain OP, ± SRS or WBRT or, SRS ± WBRT
- Adrenal gland → Surgery or R/T to both lung and adrenal tumors

Disseminated Metastasis

- Positive EGFR mutation → Gefitinib or Afatinib or Erlotinib or dacomitinib or osimertinib or erlotinib+ bevacizumab or erlotinib + ramucirumab
- Negative → C/T with 2 agents ± bevacizumab ± ICI, or ICI in PD-L1 ≧ 50%, C/T for 4 to 6 cycles

Disseminated Metastasis

- Negative ALK Positive → Alectinib, Ceritinib, Crizotinib, Brigatinib, Lorlatinib

Poor Performance status → Integrate palliative care or single agent C/T

Osimertinib if T790M detected

Hx, PE and Tumor markers*, CXR q3-8W

Observation if responsive, Maintenance therapy in selected Pts, 2nd line C/T or supportive care if disease progression

Ceritinib, Alectinib, Brigatinib, Lorlatinib

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復發

- 病史，理學檢查
- CXR
- CBC/DC, SMA
- Tumor markers*
- Chest CT
  (including liver/ adrenal gland)
- 經由支氣管鏡檢查
  或影像導引穿刺或
  表淺淋巴結抽吸組織學證實*
- 檢體 EGFR mutation 檢測*
- 檢體 ALK IHC 檢測*
- 檢體 ROS1 IHC 檢測*
- 檢體 BRAF IHC 檢測*
- 檢體 PD-L1 檢測*
- 次世代定序癌症基因檢測*
- Bone scan*
- Brain MRI*
- Mediastinoscopy* or TBNA§
- PET-CT*

Solitary metastasis to:
Brain, Adrenal Lung

Local recurrence within the chest or mediastinum

Malignant pleural effusion or disseminated metastases

Bone metastases

Surgery +/- R/T
or C/T ± R/T ¥
or R/T alone

C/T as in
M1 disease

Optional:
§Transbronchoal fine needle aspiration
¥Concurrent chemoradiotherapy

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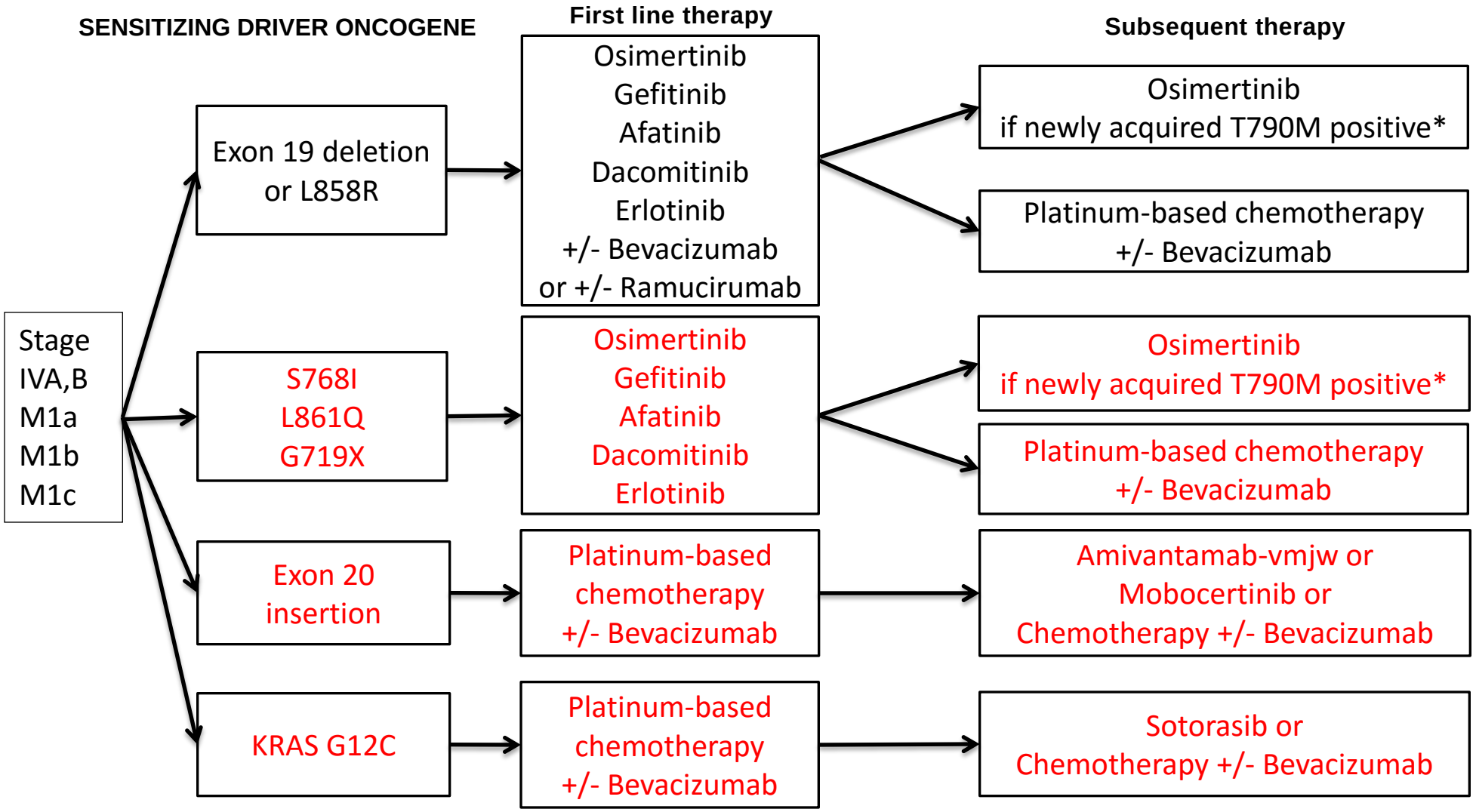

* First line did not receive osimertinib

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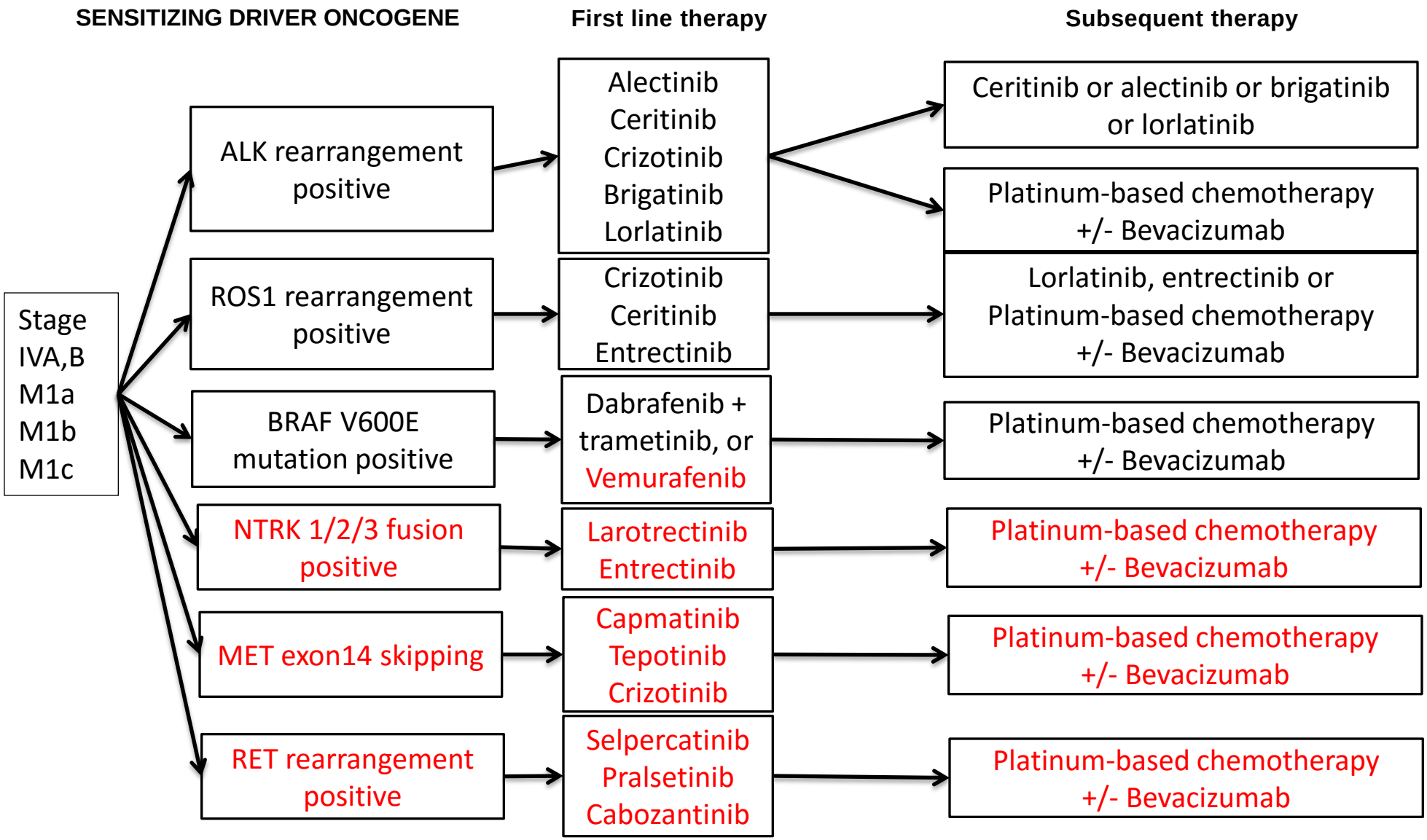

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診斷	評估	治療	重新評估	治療

Stage
IVA,B
M1a
M1b
M1c

- 病史，理學檢查
- CXR
- Chest CT
- CBC/DC, SMA
- Tumor markers*
- EKG
- 經由痰液、肋膜積液、支氣管鏡檢查或影像導引穿刺或表淺淋巴結抽吸組織學證實
- 檢體 EGFR mutation 檢測*
- 檢體 ALK IHC 檢測*
- 檢體 ROS1 IHC 檢測*
- 檢體 BRAF IHC 檢測*
- 檢體 PD-L1 檢測*
- 次世代定序癌症基因檢測*
- 上腹部超音波檢查
- Bone scan*
- Brain CT/MRI*
- PET-CT*

Disseminated
Metastasis

EGFR(-)
ALK(-)
ROS1(-)

PD-L1≧ 50%

Pembrolizumab
Atezolizumab
Chemotherapy + Pembrolizumab
Chemotherapy ± Bevacizumab + Atezolizumab
Nivolumab + Ipilimumab
Chemotherapy + Nivolumab + Ipilimumab
Chemotherapy ± Bevacizumab

PD-L1 1~49%

Pembrolizumab
Chemotherapy + Pembrolizumab
Chemotherapy ± Bevacizumab + Atezolizumab
Nivolumab + Ipilimumab
Chemotherapy + Nivolumab + Ipilimumab
Chemotherapy ± Bevacizumab

PD-L1＜ 1%

Chemotherapy + Pembrolizumab
Chemotherapy ± Bevacizumab + Atezolizumab
Nivolumab + Ipilimumab
Chemotherapy + Nivolumab + Ipilimumab
Chemotherapy ± Bevacizumab

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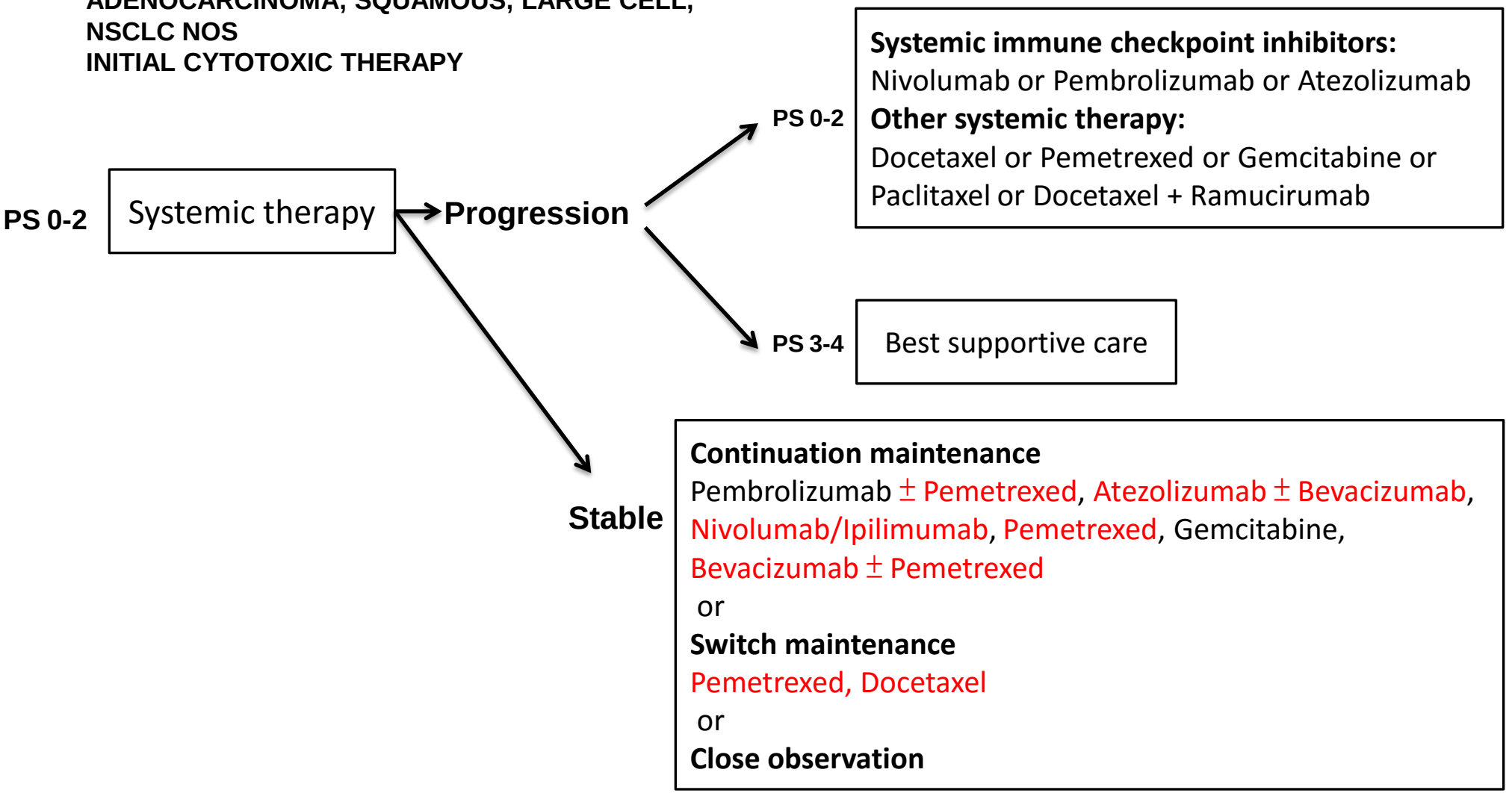
ADENOCARCINOMA, SQUAMOUS, LARGE CELL, NSCLC NOS
INITIAL CYTOTOXIC THERAPY



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一線抗腫瘤治療處方（一）

Published C/T Regimens	Schedule
Cisplatin 60-75 mg/m2, IV, D15 + Vinorelbine 25 mg/m2, IV, D1,8,15	Q28 d x 4-6 cycles
Cisplatin 60-75 mg/m2, IV, D8 + Vinorelbine 60-75 mg/m2, PO, D1,8	Q21 d x 4 -6 cycles
Cisplatin 60-75 mg/m2, IV, D15 + Docetaxel 30 mg/m2, IV, D1,8,15	Q28 d x 4-6 cycles
Cisplatin 60-75 mg/m2, IV, D15 + Paclitaxel 60 mg/m2, IV, D1,8,15	Q28 d x 4-6 cycles
Cisplatin 60-75 mg/m2, IV,D15 + Gemcitabine 900-1000 mg/m2, IV, D1,8,15	Q28 d x 4-6 cycles
Cisplatin 60-75 mg/m2, IV, D1 + Pemetrexed 500 mg/m2, IV, D1 *	Q21 d x 4-6 cycles
Gefitinib 250 mg po qd (EGFR mutant)	Till PD or unacceptable toxicity
Erlotinib 150 mg po qd (EGFR mutant)	Till PD or unacceptable toxicity
Afatinib 40 mg po qd (EGFR mutant)	Till PD or unacceptable toxicity
Dacomitinib 45 mg po qd (EGFR mutant)	Till PD or unacceptable toxicity
Osimertinib 80 mg po qd (EGFR mutant)	Till PD or unacceptable toxicity
Crizotinib 250 mg po bid (ALK rearrangement or ROS1 rearrangement)	Till PD or unacceptable toxicity
Alectinib 600 mg po bid (ALK rearrangement)	Till PD or unacceptable toxicity
Ceritinib 450 mg po qd (ALK rearrangement or ROS1 rearrangement)	Till PD or unacceptable toxicity

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一線抗腫瘤治療處方（二）

Published C/T Regimens	Schedul
Brigatinib 90 mg (first 7 days lead-in) -> 180 mg (ALK rearrangement)	Till PD or unacceptable toxicity
Entrectinib 600 mg po qd	Till PD or unacceptable toxicity
Pembrolizumab 2mg/kg IV or Pembrolizumab 200 mg IV	Q3w until PD or 2yr
Atezolizumab 1200 mg IV #	Q3w
Nivolumab 3mg/kg IV + Ipilimumab 1mg/kg IV	Nivolumab Q2w, Ipilimumab Q6w
Cisplatin 60-75 mg/m2, IV, D1 + *Pemetrexed 500 mg/m2, IV, D1 + Pembrolizumab 2 mg/kg iv or Pembrolizumab 200 mg IV x 6 cycles and then Pemetrexed 500 mg/m2,IV,D1 + Pembrolizumab 2mg/kg or 200 mg,IV,D1	Q3w until PD
Dabrafenib 150 mg PO bid + trametinib 2mg PO qd	Till PD or unacceptable toxicity
Vemurafenib 960 mg PO bid	Till PD or unacceptable toxicity
Larotrectinib 100 mg PO bid	Till PD or unacceptable toxicity
Capmatinib 400 mg PO bid	Till PD or unacceptable toxicity
Tepotinib 450 mg PO qd	Till PD or unacceptable toxicity

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一線抗腫瘤治療處方（三）

Published C/T Regimens	Schedule
Selpercatinib 120 mg PO bid (< 50 kg) or 160 mg PO bid (≥ 50 kg)	Till PD or unacceptable toxicity
Pralsetinib 400 mg po qd	Till PD or unacceptable toxicity
Cabosantinib 60 mg PO qd	Till PD or unacceptable toxicity

- 一線，二線及二線之後的化學治療，術後輔助化學治療，依據分子生物標記、病人年齡、性別、組織學型態、體能狀況、器官功能狀況、副作用的考量（血液學毒性、掉髮、皮疹、色素沈著、周邊神經病變等）、曾接受過的治療、及病人的喜好來選擇病人的化學治療處方，給於客製化（personalized treatment）的治療。
- 若年齡大，器官功能及體能狀況不佳，可以單獨治療，不需合併治療。
- 若腎功能不佳，CCr < 60 ml/min，cisplatin 可以 carboplatin AUC 4-6 取代
- 若是 nonsquamous histology, 沒有 bevacizumab 的 contraindication，platinum doublet 可以併用 bevacizumab

化學治療藥物劑量與標靶藥物劑量根據毒性副作用及病人耐受性做調整

* 使用於不是 squamous cell carcinoma 組織學型態的病人

\# 使用於 PD-L1 expression ≧ 50% 的病人

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維持治療處方

Published C/T Regimens	Schedule
*Pemetrexed 500 mg/m2 IV D1	Q21 d Till PD or unacceptable toxicity
*Docetaxel 30 mg/m2, IV, D1,8,15	Q28 d Till PD or unacceptable toxicity
#Gemcitabine 900-1000 mg/m2, IV, D1,8,15	Q28d Till PD or unacceptable toxicity
#Bevacizumab 7.5 mg/kg IV q3w	Q21d Till PD or unacceptable toxicity
#Pemetrexed 500 mg/m2 IV + Bevacizumab 7.5 mg/kg IV	Q21d Till PD or unacceptable toxicity
#Pembrolizumab 2mg/kg IV or Pembrolizumab 200 mg IV	Q21d Till PD or unacceptable toxicity or 2yr
#Atezolizumab 1200 mg IV	Q21d Till PD or unacceptable toxicity
#Nivolumab 3mg/kg IV + Ipilimumab 1mg/kg IV	Nivolumab Q2w, Ipilimumab Q6w

Continuous maintenance therapy：在沒有疾病惡化的情況下，一線化學治療 4-6 個療程後，持續使用一線化學治療配方中的一個藥物。使用於不是 squamous cell carcinoma 組織學型態的病人。
* Switch maintenance therapy：在沒有疾病惡化的情況下，一線化學治療 4-6 個療程後，使用與一線化學治療配方不同的藥物。

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後續的抗腫瘤治療處方（一）

Published C/T Regimens	Schedule
Gefitinib 250 mg PO QD	Till PD or unacceptable toxicity
Erlotinib 150 mg PO QD	Till PD or unacceptable toxicity
Crizotinib 250 mg PO BID (ALK rearrangement or ROS1 rearrangement)	Till PD or unacceptable toxicity
Ceritinib 450 mg PO QD (ALK rearrangement or ROS1 rearrangement)	Till PD or unacceptable toxicity
Alectinib 600mg PO BID (ALK rearrangement)	Till PD or unacceptable toxicity
Brigatinib 90 mg (first 7 days lead in) → 180 mg (ALK rearrangement)	Till PD or unacceptable toxicity
Lorlatinib 100 mg po qd (ALK rearrangement)	Till PD or unacceptable toxicity
Docetaxel 30 mg/m2, IV, D1,8,15	Q28 d x 4-6 cycles
#Pemetrexed 500 mg/m2, IV, D1	Q21 d x 4-6 cycles
Paclitaxel 60 mg/m2, IV, D1,8,15	Q28 d x 4-6 cycles
Gemcitabine 900-1000 mg/m2, IV, D1,8,15	Q28 d x 4-6 cycles

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後續的抗腫瘤治療處方（二）

Published C/T Regimens	Schedule
Vinorelbine 25 mg/ m^2 IV, D1,8,15	Q28 d x 4-6 cycles
Vinorelbine 60-75 mg/m2, PO, D1,8	Q21 d x 4-6 cycles
Docetaxel 30 mg/m2, IV, D1,8,15 + Ramucirumab 10 mg/kg IV	Q28 d x 4-6 cycles
Nivolumab 3mg/kg IV	Q2w
Pembrolizumab 2mg/kg IV or Pembrolizumab 200 mg IV *	Q3w
Atezolizumab 1200 mg IV	Q3w
TS-1 40 mg/m^2 po bid, D1-28 #	Q42d
Afatinib 40 mg po qd (2L therapy for squamous histology)	Till PD or unacceptable toxicity
Amivantamab-vmjw 1,050 mg (1,400 mg, ≥ 80 kg) given once weekly for the first 4 weeks and then once every 2 weeks starting at week 5	Till PD or unacceptable toxicity
Mobocertinib 160 mg po qd	Till PD or unacceptable toxicity
Sotorasib 960 mg PO qd	Till PD or unacceptable toxicity

• 一線，二線及二線之後的化學治療，術後輔助化學治療，依據分子生物標記、病人年齡、性別、組織學型態、體能狀況、器官功能狀況、副作用的考量（血液學毒性、掉髮、皮疹、色素沈著、周邊神經病變等）、曾接受過的治療、及病人的喜好來選擇病人的化學治療處方，給於客製化（personalized treatment）的治療。
使用於不是 squamous cell carcinoma 組織學型態的病人
* PD-L1 expression ≧ 1% 的病人

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術前新輔助化學治療處方

Published C/T Regimens	Schedule
Cisplatin 60-75 mg/m2, IV, D1 Pemetrexed 500 mg/m2,IV, D1 #	Q21 d x 2-4 cycles
Cisplatin 60-75 mg/m2, IV, D15. Gemcitabine 900-1000 mg/m2,IV, D1,8,15.	Q28 d x 2-4 cycles
Cisplatin 60-75 mg/m2, IV, D15 Docetaxel 30 mg/m2, IV, D1,8,15	Q28 d x 2-4 cycles
Cisplatin 60-75 mg/m2, IV, D15 Vinorelbine 25 mg/m2, IV , D1,8,15	Q28 d x 2-4 cycles
Cisplatin 60-75 mg/m2, IV, D8 Vinorelbine 60-75 mg/m2, PO, D1,8	Q21 d x 2-4 cycles
Cisplatin 60-75 mg/m2, IV, D15 Paclitaxel 60 mg/m2, IV, D1,8,15	Q28 d x 2-4 cycles
Cisplatin 60-75 mg/m2, IV, D1 Etoposide 60-75 mg/m2, IV, D1-3	Q28d x 2-4 cycles

• 若腎功能不佳，CCr < 60 ml/min，cisplatin 可以 carboplatin AUC 4-6 取代
使用於不是 squamous cell carcinoma 組織學型態的病人

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術後輔助化學治療處方（一）

Published C/T Regimens	Schedule
Cisplatin 60-75 mg/m2, IV, D1 Pemetrexed 500 mg/m2,IV, D1 #	Q21 d x 2-4 cycles
Cisplatin 60-75 mg/m2, IV, D15. Gemcitabine 900-1000 mg/m2,IV, D1,8,15.	Q28 d x 2-4 cycles
Cisplatin 60-75 mg/m2, IV, D15 Docetaxel 30 mg/m2, IV, D1,8,15	Q28 d x 2-4 cycles
Cisplatin 60-75 mg/m2, IV, D15 Vinorelbine 25 mg/m2, IV , D1,8,15	Q28 d x 2-4 cycles
Cisplatin 60-75 mg/m2, IV, D8 Vinorelbine 60-75 mg/m2, PO, D1,8	Q21 d x 2-4 cycles
Cisplatin 60-75 mg/m2, IV, D15 Paclitaxel 60 mg/m2, IV, D1,8,15	Q28 d x 2-4 cycles
Cisplatin 60-75 mg/m2, IV, D1 Etoposide 60-75 mg/m2, IV, D1-3	Q28d x 2-4 cycles
Tagafur/Uracil 300-500 mg PO QD #	Maintenance for 2 years

若腎功能不佳，CCr < 60 ml/min，cisplatin 可以 carboplatin AUC 4-6 取代

使用於不是 squamous cell carcinoma 組織學型態的病人

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術後輔助化學治療處方（二）

Published C/T Regimens	Schedule
Osimertinib 80 mg PO QD	Till PD or unacceptable toxicity
Atezolizumab 1200 mg, IV, Q3W [&]	Up to 16 cycles.

- 若腎功能不佳，CCr < 60 ml/min，cisplatin 可以 carboplatin AUC 4-6 取代

& For patients with completely resected stage IIB-IIIA or high-risk stage IIA PD-L1 ≧ 1% NSCLC who received previous adjuvant chemotherapy

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同步化學治療放射線治療處方

Published C/T Regimens	Schedule
Cisplatin 50-60 mg/m2, IV, D1 #Pemetrexed 500 mg/m2,IV, D1	Q21 d x 3 cycles with concurrent thoracic RT
Carboplatin AUC 5, IV, D1 #Pemetrexed 500 mg/m2,IV, D1	Q21 d x 4 cycles with concurrent thoracic RT
Carboplatin AUC 2, IV, QW Paclitaxel 45-50 mg/m2, IV, QW	Concurrent thoracic RT
Cisplatin 50-60 mg/m2, IV, D1 Docetaxel 20-25 mg/m2,IV,D1,8,15	Q28 d x 2 cycles with concurrent thoracic RT
Cisplatin 50 mg/m2, IV, D15 Vinorelbine 20-25 mg/m2, IV , D1,8,15	Q28 d x 4 cycles with concurrent thoracic RT
Cisplatin 50 mg/m2, IV, D15 Vinorelbine 60-75 mg/m2, PO,D1,8	Q21 d x 4 cycles with concurrent thoracic RT
Cisplatin 50 mg/m2, IV D1,8,29,36 Etoposide 50 mg/m2, IV, D1-5,29-33	Concurrent thoracic RT
Durvalumab 10 mg/kg IV q2w or 1,500 mg IV q4w	Up to 12 months

若腎功能不佳，CCr < 60 ml/min，cisplatin 可以 carboplatin AUC 4取代
使用於不是 squamous cell carcinoma 組織學型態的病人

References

1. American Society of Clinical Oncology clinical practice guidelines: Opportunities and challenges. J Clin Oncol 26:4022-4026, 2008
2. Goldstraw P, Crowley J, Chansky K, et al:The IASLC Lung Cancer Staging Project: Proposals for the revision of the TNM stage groupings in the forthcoming (seventh) edition of the TNM Classification of malignant tumours. J Thorac Oncol 2:706-714, 2007
3. Gridelli C, Ardizzoni A, Ciardiello F, et al: Second-line treatment of advanced non-small cell lung cancer. J Thorac Oncol 3:430-440, 2008
4. D'Addario G, Felip E: Non-small-cell lung cancer: ESMO clinical recommendations for diagnosis, treatment and follow-up. Ann Oncol 19:ii39-ii40, 2008 (suppl 2)
5. Ettinger D, Johnson B: Update: NCCN small cell and non-small cell lung cancer Clinical Practice Guidelines. J Natl Compr Canc Netw 3:S17-S21, 2005 (suppl 1)
6. Noble J, Ellis PM, Mackay JA, et al: Secondline or subsequent systemic therapy for recurrent or progressive non-small cell lung cancer: A systematic review and practice guideline. J Thorac Oncol 1:1042-1058, 2006
7. Socinski MA, Crowell R, Hensing TE, et al: Treatment of non-small cell lung cancer, stage IV: ACCP evidence-based clinical practice guidelines (2nd edition). Chest 132:277S-289S, 2007
8. Pfister DG, Johnson DH, Azzoli CG, et al: American Society of Clinical Oncology treatment of unresectable non–small-cell lung cancer guideline: Update 2003. J Clin Oncol 22:330-353, 2004
9. Spiro SG, Rudd RM, Souhami RL, et al: Chemotherapy versus supportive care in advanced non-small cell lung cancer: Improved survival without detriment to quality of life. Thorax 59:828-836, 2004
10. NSCLC Meta-Analyses Collaborative Group: Chemotherapy in addition to supportive care improves survival in advanced non–small-cell lung cancer: A systematic review and meta-analysis of individual patient data from 16 randomized controlled trials. J Clin Oncol 26:4617-4625, 2008
11. Pisters KM, Evans WK, Azzoli CG, et al: Cancer Care Ontario and American Society of Clinical Oncology adjuvant chemotherapy and adjuvant radiation therapy for stages I-IIIA resectable non– small-cell lung cancer guideline. J Clin Oncol 25:5506-5518, 2007
12. Georgoulias V, Ardavanis A, Tsiafaki X, et al: Vinorelbine plus cisplatin versus docetaxel plus gemcitabine in advanced non–small-cell lung cancer: A phase III randomized trial. J Clin Oncol 23:2937- 2945, 2005
13. Lilenbaum RC, Herndon JE 2nd, List MA, et al: Single-agent versus combination chemotherapy in advanced non–small-cell lung cancer: The Cancer and Leukemia Group B (study 9730). J Clin Oncol 23:190-196, 2005
14. Lilenbaum R, Axelrod R, Thomas S, et al:Randomized phase II trial of erlotinib or standard chemotherapy in patients with advanced non–smallcell lung cancer and a performance status of 2. J Clin Oncol 26:863-869, 2008
15. Cullen MH, Zatloukal P, Sorenson S, et al: A randomized phase III trial comparing standard and high-dose pemetrexed as second-line treatment in patients with locally advanced or metastatic nonsmall- cell lung cancer. Ann Oncol 19:939-945, 2008

References

16. Shepherd FA, Rodrigues Pereira J, Ciuleanu T, et al: Erlotinib in previously treated non-small-cell lung cancer. N Engl J Med 353:123-132, 2005
17. Hanna N, Shepherd FA, Fossella FV, et al: Randomized phase III trial of pemetrexed versus docetaxel in patients with non–small-cell lung cancer previously treated with chemotherapy. J Clin Oncol 22:1589-1597, 2004
18. Weiss GJ, Langer C, Rosell R, et al: Elderly patients benefit from second-line cytotoxic chemotherapy: A subset analysis of a randomized phase III trial of pemetrexed compared with docetaxel in patients with previously treated advanced non– small-cell lung cancer. J Clin Oncol 24:4405-4411, 2006
19. D'Addario G, Pintilie M, Leighl NB, et al: Platinum-based versus non-platinum-based chemotherapy in advanced non–small-cell lung cancer: A meta-analysis of the published literature. J Clin Oncol 23:2926-2936, 2005
20. Pujol JL, Barlesi F, Daures JP: Should chemotherapy combinations for advanced non-small cell lung cancer be platinum-based? A meta-analysis of phase III randomized trials. Lung Cancer 51:335- 345, 2006
21. Sculier JP, Lafitte JJ, Lecomte J, et al: A phaseIIIrandomisedtrialcomparingsequentialchemotherapy using cisplatin-based regimen and paclitaxel to cisplatin-based chemotherapy alone in advanced non-small-cell lung cancer. Ann Oncol18:1037-1042, 2007
22. Belani CP, Ramalingam S, Perry MC, et al: Randomized, phase III study of weekly paclitaxel in combination with carboplatin versus standard every- 3-weeks administration of carboplatin and paclitaxel for patients with previously untreated advanced non–small-cell lung cancer. J Clin Oncol 26:468-473, 2008
23. Scagliotti GV, Parikh P, von Pawel J, et al: Phase III study comparing cisplatin plus gemcitabine with cisplatin plus pemetrexed in chemotherapynaive patients with advanced-stage non–small-cell lung cancer. J Clin Oncol 26:3543-3551, 2008
24. Gridelli C: The ELVIS trial: A phase III study of single-agent vinorelbine as first-line treatment in elderly patients with advanced non-small cell lung cancer—Elderly Lung Cancer Vinorelbine Italian Study. Oncologist 6:4-7, 2001 (suppl 1)
25. Gridelli C, Langer C, Maione P, et al: Lung cancer in the elderly. J Clin Oncol 25:1898-1907, 2007 Azzoli et al
26. Pallis AG, Polyzos A, Boukovinas I, et al: Pooled analysis of elderly patients with non-small cell lung cancer treated with front line docetaxel/ gemcitabine regimen: The Hellenic Oncology Research Group experience. J Thorac Oncol 3:505- 510, 2008
27. Jiang J, Liang X, Zhou X, et al: A metaanalysis of randomized controlled trials comparing carboplatin-based to cisplatin-based chemotherapy in advanced non-small cell lung cancer. Lung Cancer 57:348-358, 2007
28. Belani CP, Pereira JR, von Pawel J, et al: Effect of chemotherapy for advanced non-small cell lung cancer on patients' quality of life: A randomized controlled trial. Lung Cancer 53:231-239, 2006
29. Fidias PM, Dakhil SR, Lyss AP, et al: Phase III study of immediate compared with delayed docetaxel after front-line therapy with gemcitabine plus carboplatin in advanced non–small-cell lung cancer. J Clin Oncol 27:591-598, 2009
30. Ciuleanu T, Brodowicz T, Belani CP, et al: Maintenance pemetrexed plus best supportive care (BSC) versus placebo plus BSC: A phase III study. J Clin Oncol 26:426s, 2008 (suppl; abstr 8011)

References

31. Herbst RS, Prager D, Hermann R, et al: TRIBUTE: A phase III trial of erlotinib hydrochloride (OSI-774) combined with carboplatin and paclitaxel chemotherapy in advanced non–small-cell lung cancer. J Clin Oncol 23:5892-5899, 2005
32. Gatzemeier U, Pluzanska A, Szczesna A, et al: Phase III study of erlotinib in combination with cisplatin and gemcitabine in advanced non–smallcell lung cancer: The Tarceva Lung Cancer Investigation Trial. J Clin Oncol 25:1545-1552, 2007
33. Mok TS, Wu YL, Thongprasert S, et al: Gefitinib or carboplatin-paclitaxel in pulmonary adenocarcinoma. N Engl J Med 361:947-957, 2009
34. Pirker R, Pereira JR, Szczesna A, et al: Cetuximab plus chemotherapy in patients with advanced non-small-cell lung cancer (FLEX): An open-label randomised phase III trial. Lancet 373:1525-1531, 2009
35. Scagliotti G, Hanna N, Fossella F, et al: The differential efficacy of pemetrexed according to NSCLC histology: A review of two phase III studies. Oncologist 14:253-263, 2009
36. Yang CH, Shih JY, Chen KC, et al: Survival outcome and predictors of gefitinib antitumor activity in East Asian chemonaive patients with advanced nonsmall cell lung cancer. Cancer 107:1873-1882, 2006
37. Eberhard DA, Johnson BE, Amler LC, et al: Mutations in the epidermal growth factor receptor and in KRAS are predictive and prognostic indicators in patients with non–small-cell lung cancer treated with chemotherapy alone and in combination with erlotinib. J Clin Oncol 23:5900-5909, 2005
38. Harrington SE, Smith TJ: The role of chemotherapy at the end of life: “When is enough, enough?” JAMA 299:2667-2678, 2008
39. Curran WJ et al. Sequential vs concurrent chemoradiation for stage III non-small cell lung cancer: a randomized phase III trial RTOG 9410. J Natl Cancer Inst. 2011;103:1452-1460
40. Sequist LV, Yang JC et al. Phase III study of afatinib or cisplatin plus pemetrexed in patients with metastatic lung adenocarcinoma with EGFR mutations. J Clin Oncol 2013;31:3327-3334.
41. Shaw AT et al. Ceritinib in ALK-rearranged non-small-cell lung cancer. N Engl J Med 2014;370:1189-1197
42. Soria JC, Ohe Y, Vansteenkiste J, et al. Osimertinib in untreated EGFR-mutated advanced non-small-cell lung cancer. N Engl J Med 2018;378:113-125.
43. Ramalingam SS, Yang JC, Lee CK, et al. Osimertinib as first-line treatment for EGFR mutation positive advanced non-small cell lung cancer. J Clin Oncol 2018;36:841-849.
44. Horn L, Spigel DR, Vokes EE, et al. Nivolumab versus docetaxel in previously treated patients with advanced non-small-cell lung cancer: two-year outcomes from two randomized, open-label, phase III trials (CheckMate 017 and CheckMate 057). J Clin Oncol 2017;35:3924-3933.
45. Browning ET, Weickhardt AJ, Camidge DR. Response to crizotinib rechallenge after initial progression and intervening chemotherapy in ALK lung cancer. J Thorac Oncol 2013;8:e21.
46. Larkins E, Scepura B, Blumenthal GM, et al. U.S. Food and Drug Administration Approval Summary: ramucirumab for the treatment of metastatic non-small cell lung cancer following disease progression on or after platinum-based chemotherapy. Oncologist 2015;20:1320-1325

References

47. Garon EB, Rizvi NA, Hui R, et al. Pembrolizumab for the treatment of non-small-cell lung cancer. N Engl J Med 2015;372:2018-2028.
48. Rittmeyer A, Barlesi F, Waterkamp D, et al. Atezolizumab versus docetaxel in patients with previously treated non-small-cell lung cancer (OAK): a phase 3, open-label, multicentre randomised controlled trial. Lancet 2017;389:255-265.
49. Langer CJ, et al. Carboplatin and pemetrexed with or without pembrolizumab for advanced, non- squamous non-small-cell lung cancer: a randomised, phase 2 cohort of the open-label KEYNOTE-021 study. The Lancet Oncology. 2016;17:1497-1508.
50. Gandhi L, Rodriguez-Abreu D, Gadgeel S, et al. Pembrolizumab plus chemotherapy in metastatic non-small-cell lung cancer. N Engl J Med 2018;378:2078-2092.
51. Barlesi F, Scherpereel A, Gorbunova V, et al. Maintenance bevacizumab-pemetrexed after first-line cisplatin-pemetrexed-bevacizumab for advanced nonsquamous nonsmall-cell lung cancer: updated survival analysis of the AVAPERL (MO22089) randomized phase III trial. Ann Oncol 2014;25:1044-1052.
52. Peters S, Camdige DR, Shaw AT er al. Alectinib versus crizotinib in untreated ALK-positive non-small cell lung cancer. N Engl J Med 2017;377:829-838.
53. Borghaei H, Paz-Ares L, Horn L, et al. Nivolumab versus docetaxel in advanced nonsquamous non-small-cell lung cancer. N Engl J Med 2015;373:1627-1639.
54. Soria JC, Tan DS, Chiari R, et al. First-line ceritinib versus platinum-based chemotherapy in advanced ALK-rearranged non-small-cell lung cancer (ASCEND-4): a randomised, open-label, phase 3 study. Lancet 2017;389:917-929.
55. Antonia SJ, Villegas A, Daniel D, et al. Durvalumab after chemoradiotherapy in stage III non-small-cell lung cancer. N Engl J Med 2017;377:1919-1929.
56. Kato H, Ichinose Y, Ohta M et al. A randomized trial of adjuvant chemotherapy with uracil-tegafur for denocarcinoma of the lung. N Engl J Med 2004, Apr 22;350(17):1713-21
57. Arriagada R, Bergman B, Dunant A, et al. The International Adjuvant Lung[a]Winton T, Livingston R, Johnson D, et al. Vinorelbine plus cisplatin Cancer Trial Collaborative Group. Cisplatin-based adjuvant chemotherapy in patients with completely resected non-small cell lung cancer. N Engl J Med 2004;350:351-360.
58. Douillard JY, Rosell R, De Lena M, et al. Adjuvant vinorelbine plus cisplatin versus observation in patients with completely resected stage IB-IIIA non-small-cell lung cancer (Adjuvant Navelbine International Trialist Association [ANITA]): a randomised controlled trial. Lancet Oncol 2006;7:719-727
59. Strauss GM, Herndon III JE, Maddaus MA, et al. Adjuvant paclitaxel plus carboplatin compared with observation in stage IB non-small cell lung cancer: CALGB 9633 with the Cancer and Leukemia Group B, Radiation Therapy Oncology Group, and North Central Cancer Treatment Group Study Groups. J Clin Oncol 2008;26:5043- 5051.

References

60. Usami N, Yokoi K, Hasegawa Y, et al. Phase II study of carboplatin and gemcitabine as adjuvant chemotherapy in patients with completely resected non-small cell lung cancer: a report from the Central Japan Lung Study Group, CJLSG 0503 trial. Int J Clin Oncol 2010;15:583-587.
61. Zhang L, Ou W, Liu Q, et al. Pemetrexed plus carboplatin as adjuvant chemotherapy in patients with curative resected non-squamous non-small cell lung cancer.Thorac Cancer 2014;5:50-56.
62. Albain KS, Crowley JJ, Turrisi AT III, et al. Concurrent cisplatin, etoposide, and chest radiotherapy in pathologic stage IIIB non-small-cell lung cancer: A Southwest Oncology Group Phase II Study, SWOG 9019. J Clin Oncol 2002;20:3454-3460.
63. Govindan R, Bogart J, Stinchcombe T, et al. Randomized phase II study of pemetrexed, carboplatin, and thoracic radiation with or without cetuximab in patients with locally advanced unresectable non-small-cell lung cancer: Cancer and Leukemia Group B trial 30407. J Clin Oncol 2011;29:3120-3125.
64. Bradley JD, Paulus R, Komaki R, et al. Standard-dose versus high-dose conformal radiotherapy with concurrent and consolidation carboplatin plus paclitaxel with or without cetuximab for patients with stage IIIA or IIIB non-small-cell lung cancer (RTOG 0617): a randomised, two-by-two factorial phase 3 study. Lancet Oncol 2015;16:187-199.
65. Okamoto I., Yoshioka H., Morita S., Ando M., Takeda K., Seto T., et al. (2010) Phase III trial comparing oral S-1 plus carboplatin with paclitaxel plus carboplatin in chemotherapy-naive patients with advanced non-small-cell lung cancer: results of a West Japan Oncology Group study. J Clin Oncol 28: 5240–5246
66. Camidge DR, Tiseo M, Ahn M-J, et al. P3.02a-013 Brigatinib in crizotinib-refractory ALK+ NSCLC: central assessment and updates from ALTA, a pivotal randomized phase 2 trial [abstract]. J Thorac Oncol 2017;12:S1167–S1169.
67. Larkins E, Scepura B, Blumenthal GM, et al. U.S. Food and Drug Administration Approval Summary: Ramucirumab for the Treatment of Metastatic Non-Small Cell Lung Cancer Following Disease Progression On or After Platinum-Based Chemotherapy. Oncologist 2015;20:1320-1325.
68. Ramalingam SS, Reungwetwattana T, Chewaskulyong B, et al. Osimertinib versus standard-of-care EGFR-TKI as first-line treatment in patients with EGFRm advanced NSCLC: FLAURA [abstract] [abstract]. Presented at the ESMO Congress; Madrid. Abstract LBA2_PR
69. Wu YL, Yang JC, Kim DW, et al. Phase II Study of Crizotinib in East Asian Patients With ROS1-Positive Advanced Non-Small-Cell Lung Cancer. J Clin Oncol 2018;36:1405-1411.

References

70. Mok TS, Cheng Y, Zhou X, et al. Improvement in Overall Survival in a Randomized Study That Compared Dacomitinib With Gefitinib in Patients With Advanced Non-Small-Cell Lung Cancer and EGFR-Activating Mutations. J Clin Oncol 2018;36:2244-2250.
71 Wu YL, Cheng Y, Zhou X, et al. Dacomitinib versus gefitinib as first-line treatment for patients with EGFR-mutation-positive non-small-cell lung cancer (ARCHER 1050): a randomised, open-label, phase 3 trial. Lancet Oncol 2017;18:1454-1466.
72. Alice T Shaw, Todd M Bauer, Filippo de Marinis, et al. First-Line Lorlatinib or Crizotinib in Advanced *ALK*-Positive Lung Cancer. N Eng. J Med. 2020;383:2018-2029
73. Reck M, Ciuleanu T-E, Dols MC, et al. Nivolumab (NIVO) + ipilimumab (IPI) + 2 cycles of platinum-doublet chemotherapy (chemo) vs 4 cycles chemo as first-line (1L) treatment (tx) for stage IV/recurrent non-small cell lung cancer (NSCLC): CheckMate 9LA [abstract]. J Clin Oncol 2020;38:Abstract 9501-9501.
74. Spigel DR, De Marinis F, Giaccone G, et al. IMpower110: Interim OS analysis of a phase III study of atezolizumab (atezo)vs platinum-based chemotherapy (chemo) as 1L treatment (tx) in PD-L1–selected NSCLC Ann Oncol 2019;30(suppl_5):Abstract 6256.
75. Besse B, Solomon BJ, Felip E, et al. Lorlatinib in patients (Pts) with previously treated ALK+ advanced non-small cell lung cancer (NSCLC): Updated efficacy and safety [abstract]. J Clin Oncol 2018;36(15_suppl):Abstract 9032
76. Hellmann MD, Paz-Ares L, Bernabe Caro R, et al. Nivolumab plus Ipilimumab in Advanced Non-Small-Cell Lung Cancer. N Engl J Med 2019;381:2020-2031.
77. Felip E, Altorki N, Zhou C, et al. IMpower010 Investigators. Adjuvant atezolizumab after adjuvant chemotherapy in resected stage IB-IIIA non-small-cell lung cancer (IMpower010): a randomised, multicentre, open-label, phase 3 trial. Lancet. 2021 Oct 9;398(10308):1344-1357.
78. Yi-Long Wu, M.D., Masahiro Tsuboi, M.D., Jie He, M.D., Osimertinib in Resected EGFR-Mutated Non–Small-Cell Lung Cancer. N Engl J Med 2020; 383:1711-1723
79. Planchard D, Kim TM, Mazieres J. Dabrafenib in patients with BRAF(V600E)-positive advanced non-small-cell lung cancer: a single-arm, multicentre, open-label, phase 2 trial. Lancet Oncol. 2016 May;17(5):642-50.
80. Planchard D, Besse B, Groen HJM. Dabrafenib plus trametinib in patients with previously treated BRAF(V600E)-mutant metastatic non-small cell lung cancer: an open-label, multicentre phase 2 trial. Lancet Oncol. 2016 Jul;17(7):984-993.
81. J. Mazieres, C. Cropet, L. Montané, Vemurafenib in non-small-cell lung cancer patients with BRAFV600 and BRAFnonV600 mutations. Ann Oncol. 2020 Feb;31(2):289-294.
82. Drilon A, Laetsch TW, Kummar S, Efficacy of Larotrectinib in TRK Fusion-Positive Cancers in Adults and Children. N Engl J Med. 2018 Feb 22;378(8):731-739.
83. Wolf J, Seto T, Han JY, Reguart N. Capmatinib in MET Exon 14-Mutated or MET-Amplified Non-Small-Cell Lung Cancer. N Engl J Med. 2020 Sep 3;383(10):944-957.

References

84. Paik PK, Felip E, Veillon R, Tepotinib in Non-Small-Cell Lung Cancer with *MET* Exon 14 Skipping Mutations. N Engl J Med. 2020 Sep 3;383(10):931-943.
85. Drilon A, Oxnard GR, Tan DSW. Efficacy of Selpercatinib in RET Fusion-Positive Non-Small-Cell Lung Cancer. N Engl J Med. 2020 Aug 27;383(9):813-824.
86. Gainor JF, Curigliano G, Kim DW, Pralsetinib for RET fusion-positive non-small-cell lung cancer (ARROW): a multi-cohort, open-label, phase 1/2 study. Lancet Oncol. 2021 Jul;22(7):959-969. doi: 10.1016/S1470-2045(21)00247-3. Epub 2021 Jun 9. Erratum in: Lancet Oncol. 2021 Aug;22(8):e347.
87. Drilon A, Wang L, Hasanovic A, Response to Cabozantinib in patients with RET fusion-positive lung adenocarcinomas. Cancer Discov. 2013 Jun;3(6):630-5.
88. Keunchil Park, MD, PhD; Eric B. Haura, MD; Natasha B. Leighl, MD. Amivantamab in EGFR Exon 20 Insertion–Mutated Non–Small-Cell Lung Cancer Progressing on Platinum Chemotherapy: Initial Results From the CHRYSALIS Phase I Study. J Clin Oncol 39:3391-3402
89. Mobocertinib (TAK-788) in EGFR exon 20 insertion (ex20ins)+ metastatic NSCLC (mNSCLC): Additional results from platinum-pretreated patients (pts) and EXCLAIM cohort of phase 1/2 study. Suresh S. Ramalingam, Caicun Zhou, Tae Min Kim
90. Skoulidis F, Li BT, Dy GK, Sotorasib for Lung Cancers with KRAS p.G12C Mutation. N Engl J Med. 2021 Jun 24;384(25):2371-2381.