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Non Small Cell Lung Cancer

The American Society of Clinical Oncology offers the following clinical guidance on treatment alternatives during shortages of antineoplastic agents. Decisions should be based on specific goals of the therapy where evidence-based medicine has shown survival outcomes and life-extending benefits in both early and advanced stages. For more information on ASCO's general principles during drug shortages, please visit ASCO's Clinical Guidance page. For further consideration of ethical guidance, please visit ASCO's Ethical Principles and Implementation Strategies page.

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General Principles for Non Small Cell Lung Cancer

1. The following clinical guidance is not intended to provide comprehensive treatment guidelines that encompass all modalities in every setting. Rather the recommendations relate to chemotherapy and, in some instances, options to substitute or add immunotherapy agents.
2. There are several settings in which there are no platinum alternatives. While non-platinum-containing regimens exist, based upon inferior outcomes with older regimens, the preference is for the patient to travel to an area where platinum is available or to obtain the drug for the individual patient.

Early-Stage Disease (Stage I, II, or III Resectable)

Neoadjuvant therapy:

Recommended:

If neoadjuvant chemo-immunotherapy is selected, then triplet regimen[1]:

- Pembrolizumab + platinum doublet
- Nivolumab + platinum doublet
- Atezolizumab + platinum doublet
- Durvalumab + platinum doublet

ALTERNATIVES:

- If cisplatin is not available, carboplatin-based therapy

Adjuvant Chemotherapy:

Recommended:

- Cisplatin-based doublet chemotherapy

ALTERNATIVES:

- If cisplatin is not available, carboplatin-based therapy

3. Stage III Locally Advanced, Non-Resectable Disease

Recommended:

- Cisplatin-based chemotherapy, in combination with radiation therapy
  - Non-squamous: cisplatin + pemetrexed or cisplatin + etoposide
  - Squamous: cisplatin + etoposide
  - Weekly carboplatin/paclitaxel or carboplatin/etoposide weeks 1 and 5 combined with radiation are acceptable for stage III non-resectable disease.[2]

ALTERNATIVES:

- If cisplatin is not available, carboplatin-based therapy in combination with radiation therapy
  - Non-squamous: carboplatin + pemetrexed or carboplatin + paclitaxel
  - Squamous: carboplatin + paclitaxel

4. Advanced Stage or Metastatic Disease in the Absence of Targetable Mutations with Approved Therapy Options

a. **PD-L1 expression <50%**

Recommended:

- Carboplatin + pemetrexed + pembrolizumab[3]

ALTERNATIVES:

- Immunotherapy alone or with limited chemotherapy is an alternative in the presence of drug shortages. The following immunotherapy regimens can be used:
  a. Nivolumab + ipilimumab[4]
  b. Durvalumab + tremilimumab[5]
  c. Atezolizumab
  d. Cemiplimab-rwlc
  e. Pembrolizumab

b. **PD-L1 expression >50%**

Recommended:

- Immunotherapy alone
- Immunotherapy combined with carboplatin is an option[6]

ALTERNATIVES:

- While immunotherapy combined with chemotherapy is an option, in the presence of carboplatin shortages, immunotherapy alone can be used.

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2. Daly ME, Singh N, Ismaila N, et al: Management of Stage III Non–Small-Cell Lung Cancer: ASCO Guideline. Journal of Clinical Oncology 40:1356-1384, 2022

3. Singh N, Temin S, Jr SB, et al: Therapy for Stage IV Non–Small-Cell Lung Cancer Without Driver Alterations: ASCO Living Guideline. Journal of Clinical Oncology 40:3323-3343, 2022

4. Paz-Ares L, Ciuleanu TE, Cobo M, et al: First-line nivolumab plus ipilimumab combined with two cycles of chemotherapy in patients with non-small-cell lung cancer (CheckMate 9LA): an international, randomised, open-label, phase 3 trial. Lancet Oncol 22:198-211, 2021

5. Johnson ML, Cho BC, Luft A, et al: Durvalumab With or Without Tremelimumab in Combination With Chemotherapy as First-Line Therapy for Metastatic Non–Small-Cell Lung Cancer: The Phase III POSEIDON Study. Journal of Clinical Oncology 41:1213-1227, 2023

6. Dantoing E, Piton N, Salaün M, et al: Anti-PD1/PD-L1 Immunotherapy for Non-Small Cell Lung Cancer with Actionable Oncogenic Driver Mutations. Int J Mol Sci 22, 2021