

Continuing the momentum in SCLC: Exploring second-line and novel therapy options

Conversation 1

Considering the second-line treatment choices for SCLC



Dr Barbara Melosky
Medical Oncologist



Dr Sonia Amin Thomas
Oncology Pharmacist

Patient case study: Initial treatment

Presentation

62-year-old man

Smoking history:

Two packs per day for 30 years;
quit 7 years ago

Past medical history:

Hypertension

Presenting symptoms:

ED visit because disorientated;
not eating, 15-lb weight loss in
the past 3 weeks



Findings

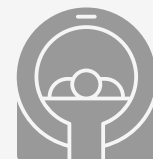
CT abdomen/pelvis/chest:

4.3 × 3.2 × 4.6 cm right lower lobe mass,
extensive lymphadenopathy throughout
the neck and chest, liver metastases

ECOG PS: 1

Lab results:

- Na: 126 mmol/L
- K: 4.6 mmol/L
- SCr: 76.04 μmol/L
- Bilirubin: 1.2 mg/dL
- WBC: 6,500/mm³
- Platelets: 238,000/mm³
- AST/ALT: 45/68 units/L



Treatment

Initial treatment:

Patient completed four cycles
of chemoimmunotherapy
(atezolizumab + carboplatin +
etoposide) and was restaged
with a PET/CT, which showed
stable disease

Maintenance therapy:

Atezolizumab every 21 days



Patient case study: Disease progression

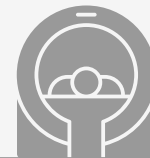
Presentation

5 months into maintenance therapy, the patient called the clinic complaining of increasing shortness of breath



Findings

CT confirms disease recurrence

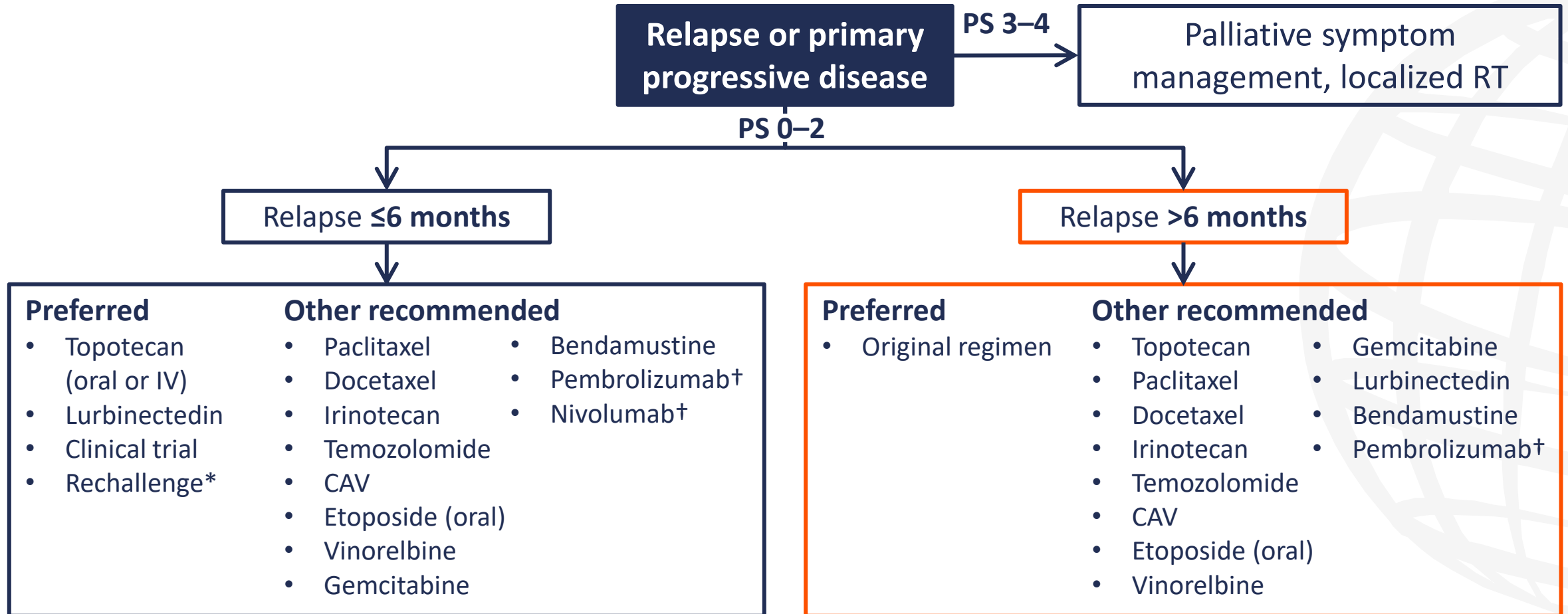


Treatment

What is the best treatment for disease recurrence in this patient?



Treatment algorithm post-first line



*Rechallenging with the original or similar platinum-based regimen should be considered if there has been a disease-free interval of 3–6 months.

†The FDA has withdrawn pembrolizumab and nivolumab for patients with relapsed SCLC but the agents are still recommended by the NCCN panel for certain patients.

CAV, cyclophosphamide/doxorubicin/vincristine; IV, intravenous; NCCN, National Comprehensive Cancer Network; PS, performance status; RT, radiotherapy; SCLC, small cell lung cancer. NCCN Clinical Practice Guidelines in Oncology. Small Cell Lung Cancer. Version 1.2023. 25 August 2022. Available at: www.nccn.org/professionals/physician_gls/pdf/sclc.pdf (accessed 19 October 2022).

Conversation 2

Tailoring treatment choices to the patient with relapsed SCLC



Dr Barbara Melosky
Medical Oncologist



Dr Christine Argento
Pulmonologist

Patient case study: Presentation

History

65-year-old man

Smoking history:

Smoked intermittently for
~40 years

Past medical history:

ES-SCLC with brain metastases

Received two cycles of
atezolizumab + etoposide
+ carboplatin



Presentation

Presenting symptoms:

Chills for 2 weeks, cough for
7 days, onset with weakness

Initial findings:

Fever, hypoxia (80%)



Initial treatment

4 L O₂ by nasal cannula



Patient case study: Findings

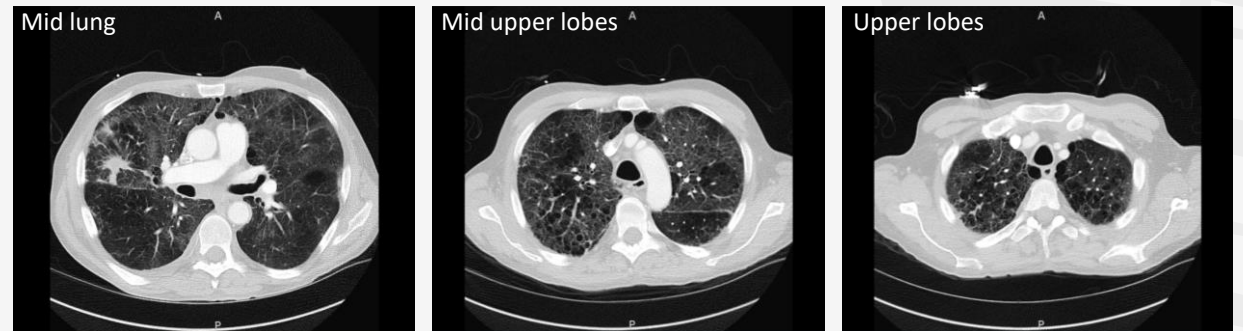
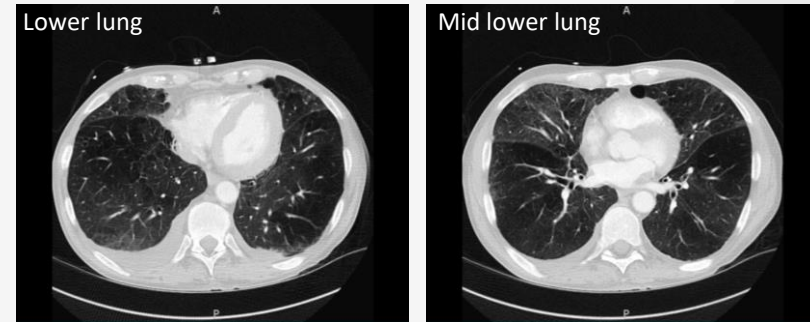
Findings

RVP and blood culture: Negative

CTA:

- No pulmonary embolism
- Spiculated RML mass with interval perilesional reticular and ground-glass opacity, and obscured borders
- Other metastatic pulmonary nodules decreased in size
- Interstitial reticulations in the RUL, RML and LUL with increased prominence in the RLL since last exam
- No metastatic spread noted in abdomen

CTA chest



Patient case study: Treatment and follow-up

Treatment

Patient became tachypnoeic and hypoxic (91%)

4 L O₂ by nasal cannula
Cefepime 2 g
Vancomycin
1 L bolus LR

Fever returned, patient became hypotensive and tachycardic

HFNC at 50 L/min
1 L bolus LR, LR drip
Azithromycin added



Diagnosis

Pneumonia and suspected checkpoint inhibitor pneumonitis

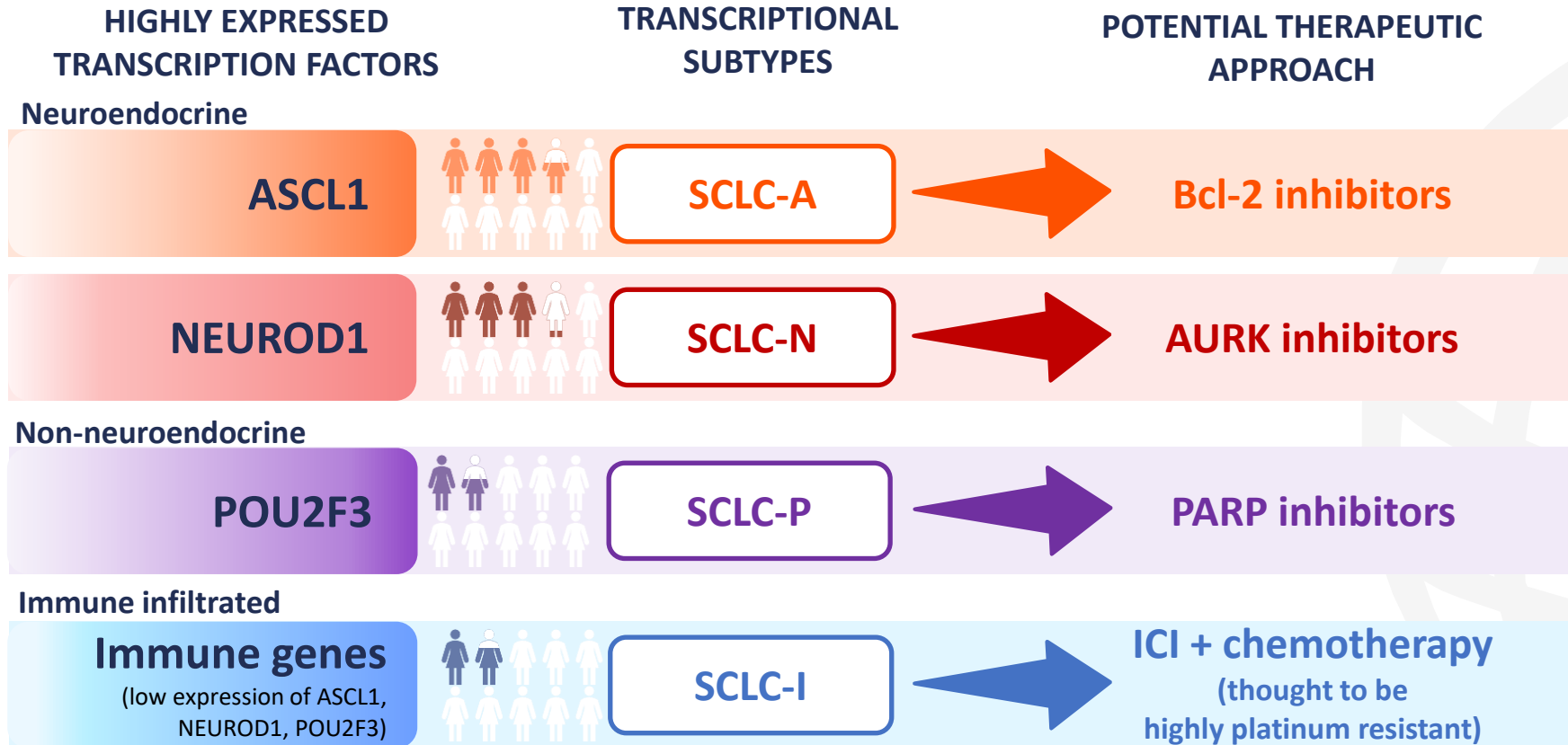
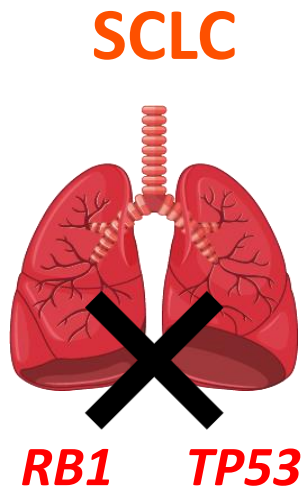


Patient completed a course of **cefepime** for **pneumonia** and **methylprednisolone 2 mg/kg** for possible **checkpoint inhibitor pneumonitis**

Typical treatment for checkpoint inhibitor pneumonitis

- Methylprednisolone 2mg/kg IV
- Plan for a 6–8 week course of steroids; decrease 10 mg per week until 20 mg/day, then decrease by 10 mg every 2 weeks
- Pneumocystis prophylaxis for prolonged high-dose steroids
- No need for additional irAE-directed therapy (e.g. IVIG)
- Close pulmonary and oncology follow-up and repeat CT chest in ~8 weeks

SCLC subtypes and biomarker potential



- SCLC subtypes based on transcription signatures are potentially promising biomarkers^{1,2}
- IMpower133 gene expression analysis: Among patients in the atezolizumab arm, there was a higher proportion of LTS in the SCLC-I subgroup, but LTS were also observed in the other subgroups²

ASCL1, Achaete-Scute family BHLH transcription factor 1; AURK, aurora kinase; Bcl-2, B-cell lymphoma 2; ICI, immune checkpoint inhibitor; LTS, long-term survivors; NEUROD1, neurogenic differentiation 1; PARP, poly-ADP ribose polymerase; POU2F3, POU domain class 2 transcription factor 3; RB1, retinoblastoma 1; SCLC, small cell lung cancer; TP53, tumour protein p53.

1. Gay CM, et al. *Cancer Cell*. 2021;39:346–60. 2. Liu SV, et al. Presented at: ESMO 2021. 16–21 September 2021. Virtual plenary.

Conversation 3

*Optimizing outcomes through improved
adverse event management*



Dr Barbara Melosky
Medical Oncologist



Dr Victoria Sherry
Oncology Nurse Practitioner



Dr Sonia Thomas
Oncology Pharmacist

Patient case study

Presentation

61-year-old man

Smoking history:

~5 pack years*; quit over 30 years ago

Past medical history:

Sustained a motor vehicle accident (hit from behind); received physical therapy but pain persisted



Findings

MRI T-L spine:

Bone lesions in the lumbar spine and pelvis

CT chest:

Right upper lobe lung mass

Bronchoscopy:

SCLC



Treatment

Initial treatment:

Palliative radiotherapy to the pelvis for pain control and atezolizumab + carboplatin + etoposide

Maintenance therapy:

Atezolizumab



*Calculated by multiplying the number of packs of cigarettes smoked per day by the number of years the person has smoked.¹

CT, computerized tomography; MRI T-L spine, thoracic lumbar spine magnetic resonance imaging; SCLC, small cell lung cancer.

1. National Institutes of Health. National Cancer Institute. Pack year. Available at: <https://www.cancer.gov/publications/dictionaries/cancer-terms/def/pack-year> (accessed 7 December 2022).

Patient case study: Disease progression

Surveillance

4 months later, surveillance CT of the chest, abdomen and pelvis showed progression in the patient's liver



Treatment

Patient was started on lurbinectedin and underwent radiofrequency ablation to his liver lesion



Follow-up

Patient returns 3 weeks after completing his first cycle of treatment with lurbinectedin complaining of **fatigue, nausea and constipation**

Blood test revealed
WBC count 2,000/mm³



What strategies should be employed in this patient to manage the adverse events?

Common side effects associated with cytotoxic treatments

Myelosuppression (anaemia, neutropenia, thrombocytopenia), nausea/vomiting and embryo-foetal toxicity are common to all agents*¹⁻⁶

	Gemcitabine ¹	Irinotecan ²	Lurbinectedin ³	Temozolomide ⁴	Topotecan ⁵	Vinorelbine ⁶
Dyspnoea	●		●		●	
Fatigue			●	●	●	
Hepatic toxicity	●		●	●		●
Pulmonary toxicity	●	●			●	●
Extravasation and tissue injury			●		●	●
Alopecia		●		●		
Abdominal pain		●			●	
Hypersensitivity		●				
Fever	●	●				
Severe diarrhoea		●				
Severe constipation						●
Renal impairment/failure		●				
Neurologic toxicity						●

*Gemcitabine, irinotecan, lurbinectedin, temozolomide, topotecan and vinorelbine.

1. FDA. Gemcitabine US PI. Revised May 2014; 2. FDA. Irinotecan US PI. Revised January 2022; 3. FDA. Lurbinectedin US PI. Revised April 2022; 4. FDA. Temozolomide US PI. Revised November 2019; 5. FDA. Topotecan US PI. Revised June 2019; 6. FDA. Vinorelbine US PI. Revised January 2020. All available at: www.accessdata.fda.gov/scripts/cder/daf/index.cfm (accessed 28 October 2022).