EP13.19: Clinical features and outcomes of patients with exceptional response to immunotherapy in extensive-stage small cell lung cancer

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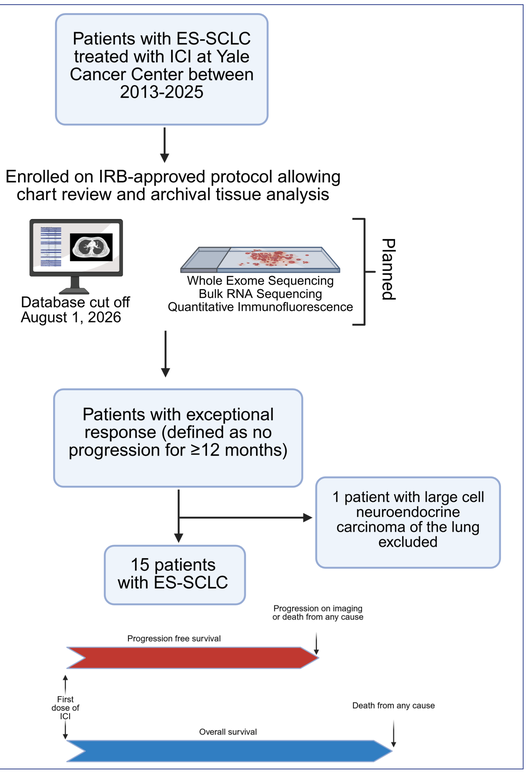
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INTRODUCTION

- Outcomes remain poor for patients with ES-SCLC
- First line therapy for ES-SCLC is a combination of chemotherapy and immune checkpoint inhibitors (ICI)
- Many patients develop resistance to first line therapy within 6 months, and the majority of patients (89-90%) have progressed at 2 years
- A subset of patients do experience a long-term response to ICI
- Predictors and mechanisms of response and resistance to ICI are not well characterized

METHODS



DISCUSSION AND CONCLUSION

Actionable Take Away Message

- Patients with ES-SCLC can have a durable response to ICI exceeding 5 years
- Regimens leading to exceptional response were varied, and included combination chemoimmunotherapy, single agent immunotherapy, and dual immune checkpoint inhibitors
- Patients who receive less than 6 months of ICI due to toxicity can still experience durable response
- ICI rechallenge for progression off therapy and local therapy for oligoprogression can be effective

Future Direction for Research

- Identification of patients with non-exceptional response and progressive disease to ICI for comparison cohorts
- Whole exome sequencing, bulk RNA sequencing, and quantitative immunofluorescence on patient samples

REFERENCES & ACKNOWLEDGEMENTS

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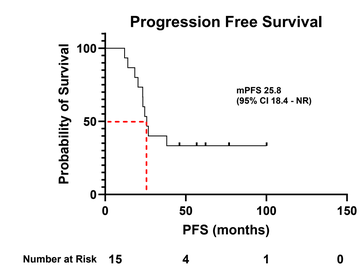
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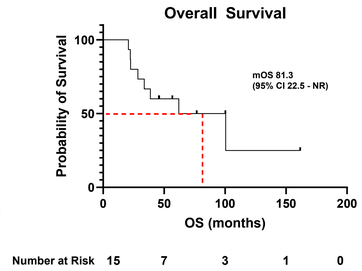
RESULTS

- Fifteen patients with ES-SCLC were identified as having an exceptional response (Table 1), with a median follow up of 76.8 months.

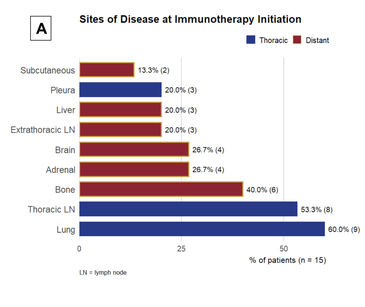
Table 1. Baseline Characteristics, N=15

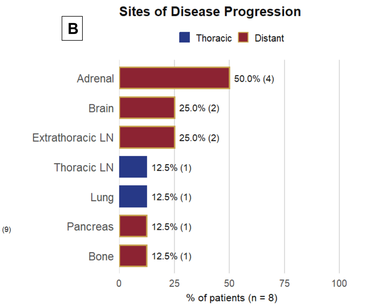
Age at First Immunotherapy Dose (years)	
Median (Range)	65 (53 - 82)
Sex, n (%)	
Female	10 (66.7)
Race, n (%)	
White	14 (93.8)
Black	1 (6.2)
Ethnicity, n (%)	
Non-Hispanic	15 (100)
Smoking History, n (%)	
Never	1 (6.7)
Former	12(80.0)
Current	2 (13.3)
Pack Years, n (%)	
<1	1 (6.7)
1 to 19	2 (13.3)
20 to 49	2 (20.0)
50+	9 (60.0)
Extensive Stage at Diagnosis, n (%)	
Yes	13 (86.7)
Ki-67 at Diagnosis, n (%)	
<50	0 (0)
50-59	2 (13.3)
60-69	1 (6.7)
70-79	0 (0)
80-89	2 (13.3)
≥90	3 (20.0)
Unknown	7 (46.7)
PD-L1 %, n (% of evaluable)	
Not performed	13
<1	2 (100.0)
Treatment Received, n (%)	
Carboplatin/Etoposide/Atezolizumab	4 (26.7)
Atezolizumab	2 (13.3)
Ipilimumab/Nivolumab	6 (40.0)
Nivolumab	2 (13.3)
Pembrolizumab	1 (6.7)
Prior Lines of Systemic Therapy, n (%)	
0	7 (46.7%)
1	6 (40.0)
2	2 (13.3)
Median (Range)	1 (0-2)
Prior Immunotherapy, n (%)	
Yes	1 (6.7)
Prior Intracranial Irradiation, n (%)	
Yes	4 (26.7)
Prior Thoracic Radiation, n (%)	
Yes	4 (36.7)
Prior Extracranial Non-Thoracic Radiation, n (%)	
Yes	1 (6.2)





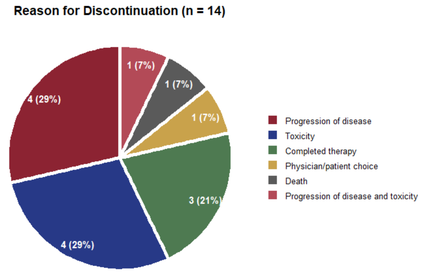
Progression free survival and overall survival.
Tick marks indicate censored data points. 6 patients had observed OS or were censored at ≥5 years. At time of database cut off, 7 patients remained alive and in follow up.





Sites of disease at immunotherapy initiation and sites of progression.
A. Sites of disease in 15 patients at time of ICI initiation. The most common site of disease were lung and thoracic lymph nodes.
B. At time of database cutoff, 8 patients had progressed at 12 sites. Five patients had progression while off ICI ≥3 months. The most common site of progression was the adrenal.

Reasons for treatment discontinuation
At time of database cutoff, 14 patients had discontinued treatment while 1 patient remained on treatment. Reasons for treatment discontinuation varied. Of the patients who discontinued due to toxicity, reasons listed included Grade 4 lipase elevation (n=2), grade 3 hyperglycemia (diabetic ketoacidosis), grade 2 hepatitis, and grade 3 colitis.



Response and outcomes in 15 patients with ES-SCLC treated with ICI
Swimmer plot displaying outcomes to immune checkpoint inhibitor, either as single agent or in combination with anti-CTLA4 therapy, in patients with exceptional response (ER). Each bar represents a single patient. In follow up, patient may have received a different non-immune checkpoint inhibitor based systemic therapy after progression. ICI rechallenge is denoted in a different shade of blue. *Patient 9 received ipilimumab/nivolumab.

