P2-11

A retrospective analysis of the treatment with immuno checkpoint inhibitor for previously treated patients of NSCLC

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Introduction

The immuno checkpoint inhibitors (ICI) were firstly covered by Japanese national insurance for the treated patients with non-small cell lung cancer (NSCLC).

Brahmer J et al.N Engl J Med 2015; 373:123-135
Borghaei H et al.N Engl J Med 2015; 373:1627-1639
Herbst RS et al. Lancet 2016; 387: 1540-1550
Rittmeyer A, et al. : Lancet, 2017; 389（10066）: 255-65.

Later, the indicaton of ICI was extended to the patients with NSCLC in first line treatment in Japan. However, little is known about which patients should we treaded with ICI for previously treated patients of NSCLC in the future.

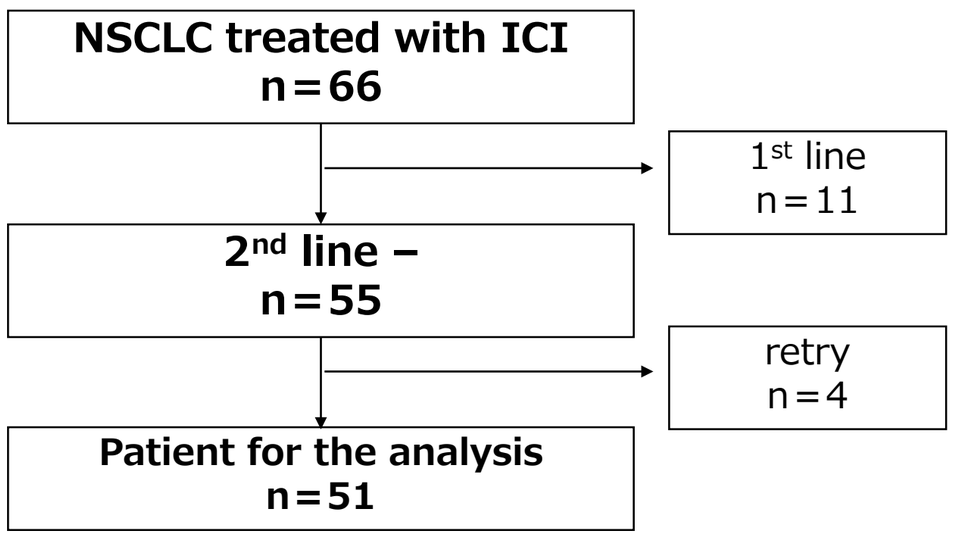
Gandhi L et al. N Engl J Med 2018; 378: 2078-2092
Paz-Ares L et al. N Engl J Med 2018; 379: 2040-2051
Socinski MA, et al.: N Engl J Med 2018;378: 2288-2301

Purpose

To examine a future treatment sequence, we summarized the outcomes of ICI in the treatment of the treated patients with NSCLC in our institution.

Methods

We retrospectively analyzed the clinical data of the treated patients of NSCLC with ICI administration between December 2015 and February 2019.
The patients used ICI repeatedly were excluded.

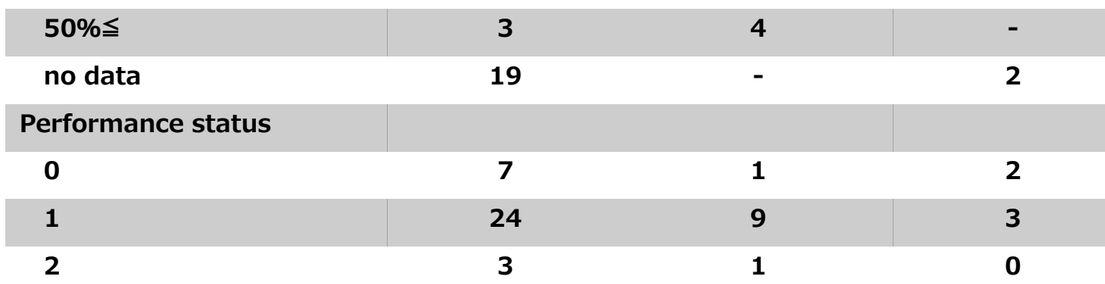


This retrospective study was approved by the institutional review board of Shinshu University School of Medicine (approval number: 3503) .

Results

Patient Characteristics

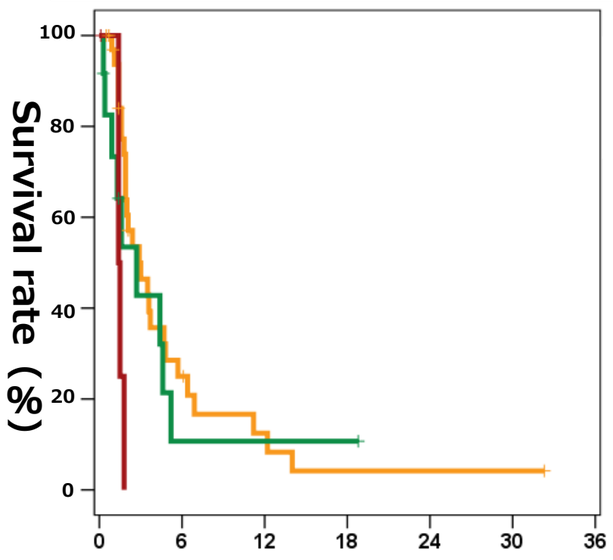
	Nivolumab	Pembrolizumab	Atezolizumab
Number of patients	34	12	5
age:median (range) ,years	69 (42-81)	65 (42-76)	71 (62-80)
Gender			
Male	26	11	3
Female	8	1	2
Smorking history			
current or former	26	11	2
never	8	1	3
Histologic type			
Squamous cell carcinoma	17	4	1
Non Squamous cell carcinoma	17	8	4
Stage(TNM 8th)			
Ⅲ	13	6	2
Ⅳ	16	6	2
Postoperative recurrence	5	-	1
EGFR/ALK/ROS1			
positive	7	-	-
negative	10	8	4
no data	17	4	1
PD-L1:TPS			
0%	7	-	1
1%≦, ≦49%	5	8	2
50%≦	3	4	-
no data	19	-	2
Performance status			
0	7	1	2
1	24	9	3
2	3	1	0
3	-	1	0
line			
2nd	19	9	3
3rd-	15	3	2
Number of course : median	4	3	2
response			
complete response	-	-	-
partial response	7	2	-
stable disease	12	1	-
Progressive disease	14	9	4
NE	1	-	1
overall response rate	21.2%	16.7%	0%
disease control rate	57.7%	25.0%	0%



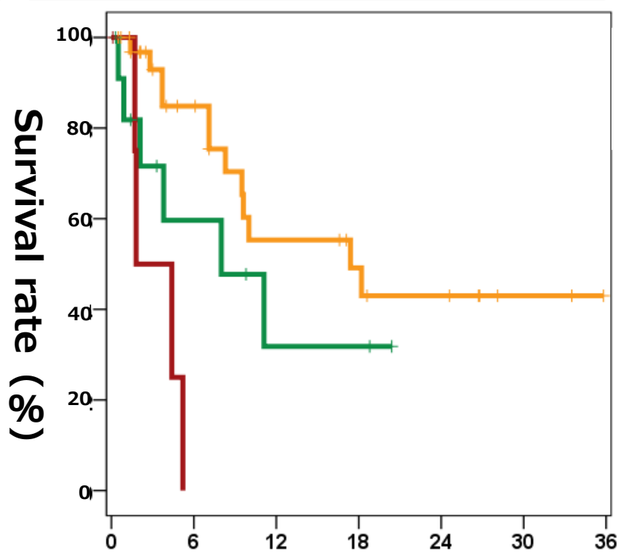
efficacy

	Nivolumab	Pembrolizumab	Atezolizumab
progression-free survival :months（95%CI）	2.9 (1.1-4.7)	2.7 (0.7-4.7)	1.4
overall survival :months（95%CI）	17.4 (2.7-32.1)	8.0 (0-16.5)	1.8 (0.0-4.4)

progression-free survival

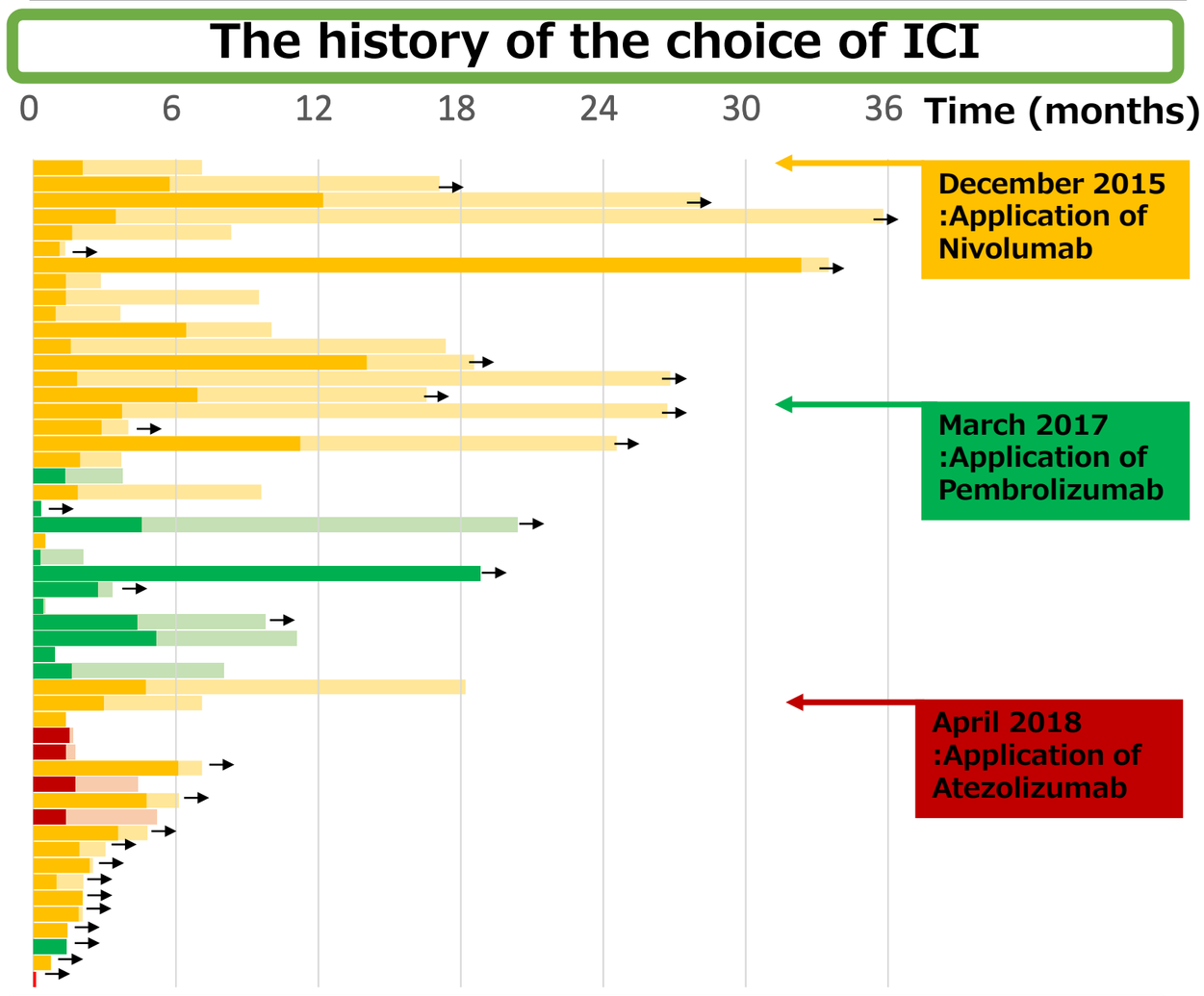


overall survival



Nivolumab　Pembrolizumab　Atezolizumab

The history of the choice of ICI



Adverse event

	Nivolumab	Pembrolizumab	Atezolizumab
Grade3≦	ILD n=1 Sepsis n=1	ILD n=1 Sepsis n=1 Rash n=2 Adrenal insufficiency n=1	-

Discussion

There were no reports that described the differences in efficacy for previously treated NSCLC among three ICI drugs.
In this study, there were no significant differences in the progression-free survival among three ICI drugs.
However, treatment with nivolumab had the best overall survival. This may be because there are more patients with squamous cell carcinoma or those with driver mutation in patients who treated with nivolumab.

Conclusion

In our institution, treatment with nivolumab had the best overall survival among the three ICI drugs. However, there were no significant differences in the progression-free survival among three ICI drugs.

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