

# Nivolumab outcomes in interstitial lung disease patients with advanced non-small cell lung cancer in French real-world setting

Poster  
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## Background

Patients with Interstitial Lung Disease (ILD) are at higher risk of developing NSCLC and have a poorer prognosis.<sup>1</sup>

ILD patients are usually excluded or unrepresented in immunotherapy clinical trials.

Outcomes following nivolumab treatment in ILD patients with advanced NSCLC (aNSCLC) are thus poorly characterised.

The UNIVOC cohort consists of all patients with NSCLC starting nivolumab treatment in France in 2015 and 2016.<sup>2</sup>

This cohort represents a valuable source of information for evaluating outcomes in aNSCLC patients with comorbid ILD in a real-world setting.

## Study Objectives

- To describe characteristics of ILD patients in the UNIVOC cohort initiating nivolumab for the treatment of aNSCLC.
- To compare clinical outcome between patients with and without ILD following nivolumab treatment.

## Methods

### Patients and data source

All patients initiating nivolumab for 2<sup>nd</sup> line (or more) treatment of aNSCLC in 2015-2016 were enrolled.

Data were extracted from the French national hospital discharge database (PMSI).<sup>3</sup>

Patients with aNSCLC and ILD were identified from the relevant ICD codes in the hospitalisation discharge summary.

Three different subgroups of patients with ILD were identified: autoimmune or granulomatous ILD (AIG), ILD due to other known causes and idiopathic ILD.

### Data extraction

All inpatient and outpatient hospitalisations between 01/12/2011 and 31/12/2019 were extracted from the database.

Demographic variables were documented at the time of the first nivolumab administration.

Time since diagnosis was defined as the interval between first hospitalisation with lung cancer and first nivolumab treatment.

Patients who died in hospital were identified.

### Statistical analysis

Data presentation is principally descriptive.

Treatment discontinuation rates and overall survival rates were determined from Kaplan-Meier survival curves.

## Patients

The UNIVOC cohort included a total of 10,452 patients with aNSCLC initiating treatment with nivolumab.

Of these patients, 148 (1.4%) were identified with pre-existing ILD.

Patients with ILD of other known causes accounted for around half these patients with ILD (Figure 1).

The characteristics of the patients in the UNIVOC cohort according to diagnostic group are presented in Table 1.

Figure 1. Patient subgroups

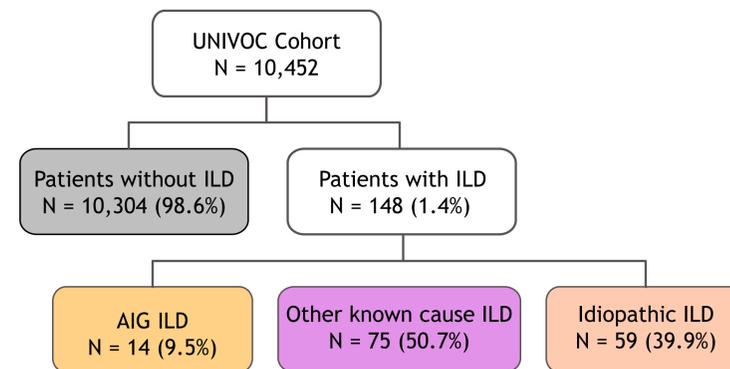


Table 1. Patient characteristics

Baseline characteristics	Non ILD population (N = 10,304)	ILD population (N = 148)
Age (mean ± SD; years)	63.8 ± 9.6	64.6 ± 9.4
Gender (men: n, %)*	7303 (70.9%)	117 (79.1%)
Time since lung cancer diagnosis (mean ± SD; mo)	19.6 ± 20.7	20.4 ± 19.5
Histology (Non-squamous cell: n; %)*	5754 (55.8%)	51 (34.5%)
Comorbid hypertension (n; %)*	1,928 (18.7%)	58 (39.2%)
Comorbid diabetes (n; %)*	895 (8.7%)	39 (26.4%)
Comorbid renal impairment (n; %)*	460 (4.5%)	19 (12.8%)
COPD (n; %)*	1,297 (12.6%)	51 (34.5%)

\*Significant between-group difference (p < 0.05;  $\chi^2$  test)

## References

- Naccache et al. *J Thorac Dis* 2018; 10: 3829-3844.
- Giaj-Levra et al. *Lung Cancer* 2020; 140: 99-106.
- Bezin et al. *Pharmacoepidemiol Drug Saf* 2017; 26: 954-962.

## Nivolumab treatment duration

Median time to treatment discontinuation was 2.5 months [95% CI: 2.0 - 2.9] in patients with ILD and 2.8 months [2.8 - 2.8] in those without (non-significant difference: NS).

Treatment persistence rates at 1 year were 12.8% and 13.4% respectively.

## Overall survival

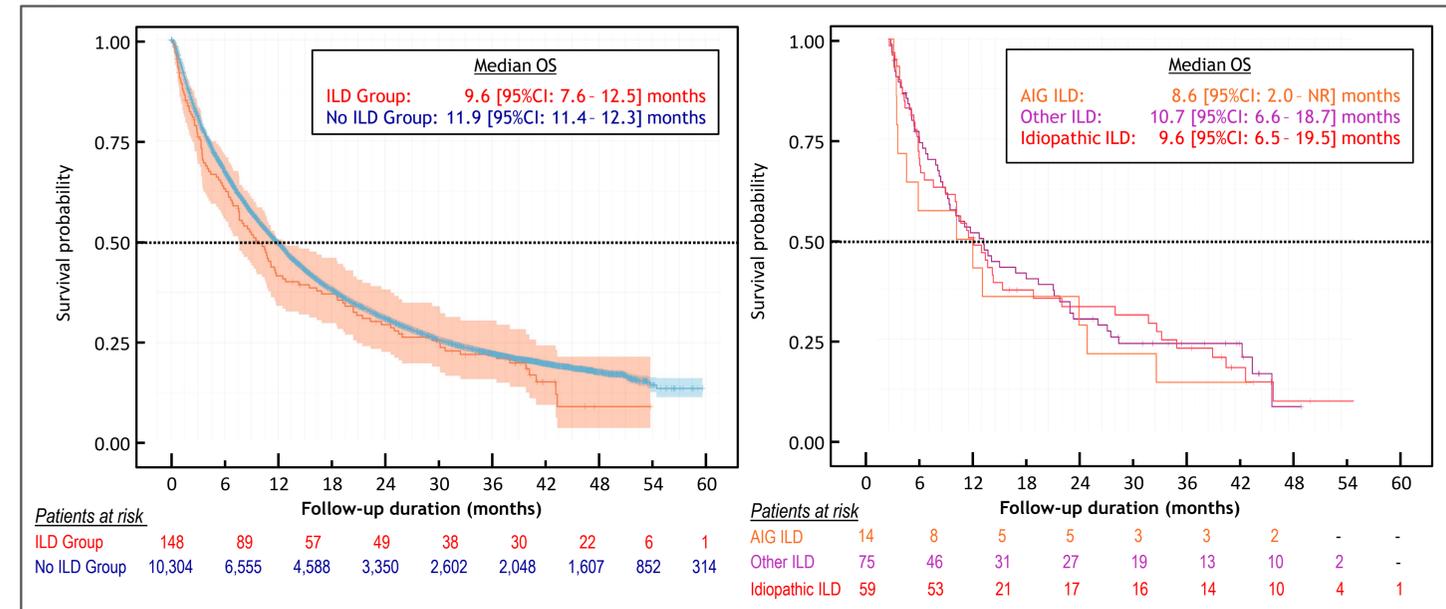
Median survival was 9.6 months in the ILD group and 11.9 months in the non-ILD group (NS).

The 2-year survival rate was 28.7% [22.8;38.2] in the ILD group and 31.0% [30.1;32.0] in the non-ILD group.

Patient numbers in the three ILD subgroups were small and confidence intervals of the survival estimates broad. There was some suggestion that survival was lower in the patients with autoimmune or granulomatous ILD.

The corresponding Kaplan-Meier survival curves are presented in Figure 2.

Figure 2. Overall survival



## Conclusions

- In this large cohort of aNSCLC patients with ILD, outcomes are close to those in the non-ILD population.
- Immunotherapy therefore seems a possible option in this context.
- However, the aetiology of ILD may influence the treatment response, and this requires further investigation.
- Further studies with larger cohorts and potentially longer follow-up time are needed to characterise adequately the risks and benefits associated with ICI therapy in patients with ILD.

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