

## Brief Report

### Title Page

# Impact of Diffusing Lung Capacity for Carbon Monoxide on Mortality Risk in Patients with ASMD: Insights from a *post-hoc* analysis

### Authors' names and affiliations:

Wim A. Wuyts<sup>a\*</sup>, Francesco Bonella<sup>b</sup>, Maurizio Scarpa<sup>c</sup>, Venediktos Kapetanakis<sup>d</sup>, Pragya Shukla<sup>e</sup>, Marie Fournier<sup>f</sup>, Maja Gasparic<sup>g</sup>, Ruth Pulikottil-Jacob<sup>h,1</sup>

<sup>a</sup>*Unit for Interstitial Lung Diseases, Department of Pulmonology, UZ Leuven, Belgium*

<sup>b</sup>*Center for Interstitial and Rare Lung Disease at Ruhrlandklinik, University of Essen, Germany*

<sup>c</sup>*Regional Coordinating Centre for Rare Diseases, MetabERN, Udine University Hospital, Udine, Italy*

<sup>d</sup>*Evidera, London, United Kingdom*

<sup>e</sup>*Evidera, St-Laurent, Quebec, Canada*

<sup>f</sup>*Sanofi, Gentilly, France*

<sup>g</sup>*Sanofi, Amsterdam, The Netherlands*

<sup>h</sup>*Sanofi, Reading, United Kingdom*

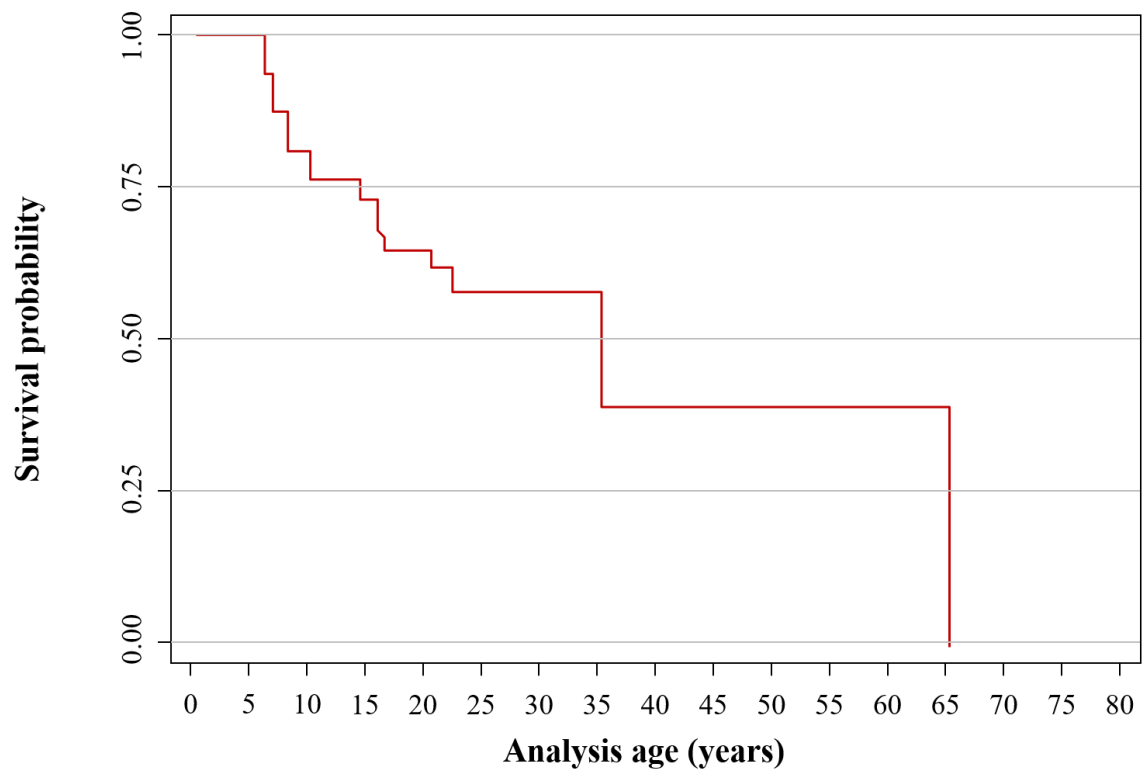
<sup>1</sup>Ruth Pulikottil-Jacob was an employee of Sanofi during the study conduct

\*Corresponding Author:

**Wim A. Wuyts**

Unit for Interstitial Lung Diseases, Department of Pulmonology, UZ Leuven, Herestraat 49,  
Leuven 3000, Belgium

Email: [wim.wuyts@uzleuven.be](mailto:wim.wuyts@uzleuven.be)



Number at risk    0    13    16    26    23    12    6    4    3    2    0    0    1    1    0    0    0

**Fig. S1:** Kaplan–Meier survival estimate

**Table S1** Distribution of respiratory events in patients with ASMD type B or type A/B

| Study                                        | Timepoint                | Percent<br>predicted<br>DL <sub>CO</sub> (%) | Number of<br>records | Respiratory events,<br><i>n</i> (%) |
|----------------------------------------------|--------------------------|----------------------------------------------|----------------------|-------------------------------------|
|                                              |                          |                                              |                      |                                     |
| Prospective<br>natural history<br>study [15] | Baseline                 | <60                                          | 28                   | 10 (35.7)                           |
|                                              |                          | ≥60                                          | 20                   | 2 (10.0)                            |
|                                              |                          | NA                                           | 2                    | 2 (100.0)                           |
|                                              | Month 12                 | <60                                          | 24                   | 4 (16.7)                            |
|                                              |                          | ≥60                                          | 20                   | 2 (10.0)                            |
|                                              |                          | NA                                           | 4                    | 4 (100.0)                           |
|                                              | Final visit              | <60                                          | 24                   | 9 (37.5)                            |
|                                              |                          | ≥60                                          | 6                    | 0                                   |
|                                              | First<br>presentation    | <60                                          | 26                   | 4 (15.4)                            |
|                                              |                          | ≥60                                          | 24                   | 2 (8.3)                             |
|                                              |                          | NA                                           | 60                   | 6 (10.0)                            |
| Retrospective<br>cohort study<br>[21]        | Diagnosis                | <60                                          | 26                   | 4 (15.4)                            |
|                                              |                          | ≥60                                          | 22                   | 2 (9.1)                             |
|                                              |                          | NA                                           | 62                   | 2 (3.2)                             |
|                                              | Last follow-<br>up/death | <60                                          | 20                   | 1 (5.0)                             |
|                                              |                          | ≥60                                          | 26                   | 2 (7.7)                             |
|                                              |                          | NA                                           | 64                   | 2 (3.1)                             |
|                                              |                          |                                              |                      |                                     |
|                                              |                          |                                              |                      |                                     |

ASMD acid sphingomyelinase deficiency, DL<sub>CO</sub> diffusing capacity of the lungs for carbon monoxide, *n* number of respiratory events, NA not available