

Impact of anti-infectious and glucocorticoids on immunotherapy : Nivolumab and Pembrolizumab follow-up for lung cancer in a French study

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Abstract 1840

Observatory of Cancer BPL (OMEDIT)

- Created in 2003 by Regional Representatives of French ministry of health
- Collects data from both private and public hospitals
- Provides a reflexion on drug management to optimize health care

Introduction

Immunotherapy is a new paradigm with EMA approval in lung cancer. However, decreased efficacy of immunotherapy via gut microbiome antibiotics influence has been recently published and potential drug **interactions between antibiotics/glucocorticoids and immunotherapy** associated with a **decrease of overall survival** have been underlined too (*Routy et al; 2017*). In addition, a recent review of the literature concludes that corticoids have little impact on the efficacy of immunotherapy (*Grant et al, 2017*).

The OMEDIT B PL in collaboration with French Regional Health Insurance System (FRHIS) and the **French Social Security System** (CNAM) has carried out a study to evaluate the impact of these treatments on the efficacy of immunotherapy.

Methods

CNAM has extracted from its database informations for patients who initiated treatment for lung cancer with Nivolumab/Opdivo® and Pembrolizumab/Keytruda® between January 2016 and December 2017 in Brittany and Pays de la Loire area. Dispensing of **antibiotics, glucocorticoids, antifungals and antivirals 60 days before immunotherapy's initiation and during the treatment.**

- ⇒ Date of treatment beginning known
 - ⇒ Point date : 30/06/2018
- Overall Survival** = death date/point date - date of 1st cure

Results

- 325 patients** received **Nivolumab or Pembrolizumab** in **2016 or 2017** for lung cancer treatment
- Sex ratio : 2.65
- Mean age = 64.3 years [30-85]
- 162 deceased / 162 alive patients / 1 lost to follow-up

325 patients

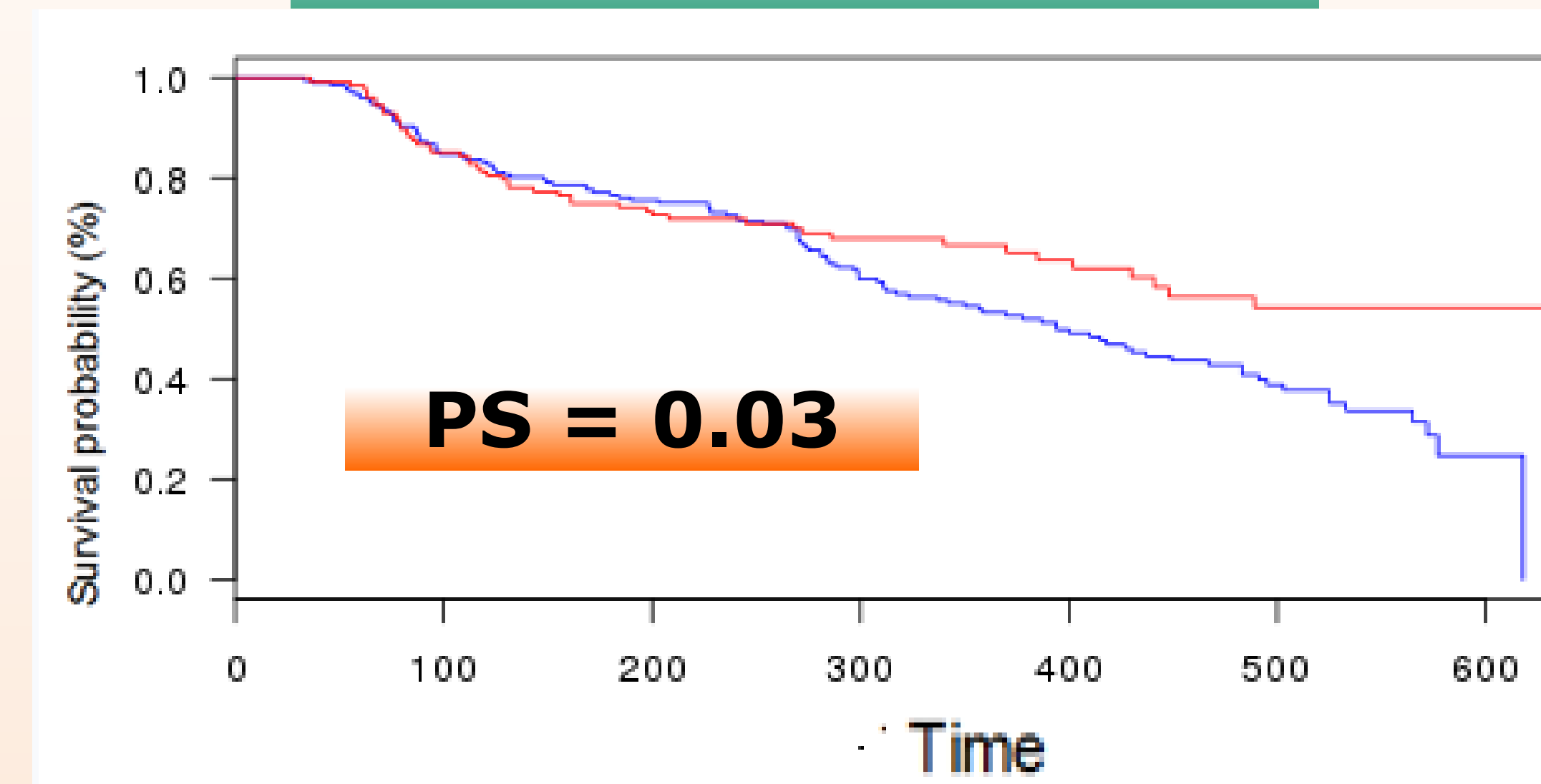
Glucocorticoids : 197 patients 60.6%	Antibiotics : 153 patients 47.1%	Antifungals : 35 patients 10.8%	Antivirals : 10 patients 3.1%	None of the 4 treatments : 85 patients 26.2%
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⇒ **Only 26.2 % patients received neither glucocorticoids, nor antibiotics, antiviral or antifungals**

Results

Global mOS (n=325 patients)= 14.1 m [1.1-20.7]

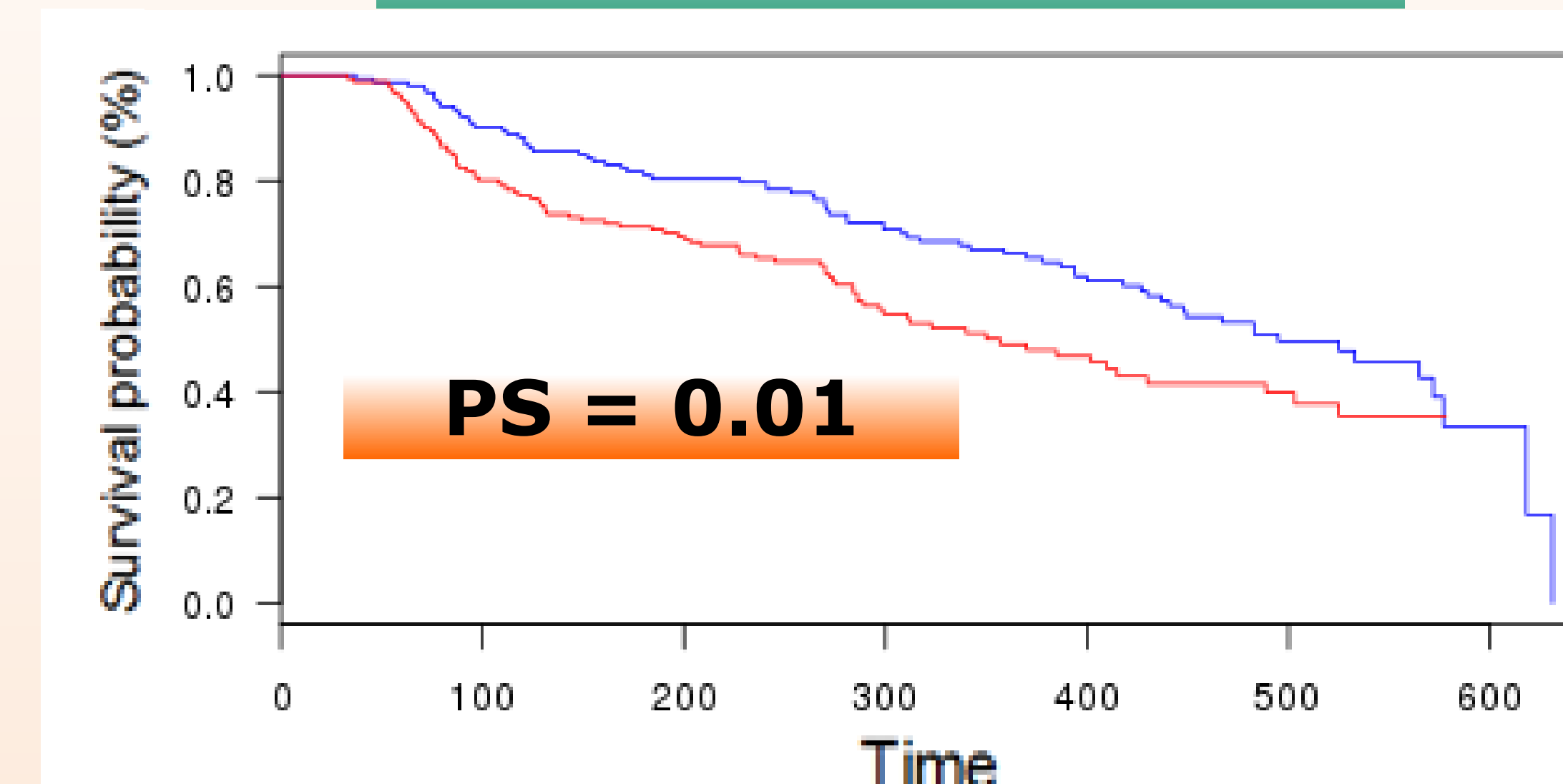
GLUCOCORTICOIDS



With glucocorticoids : mOS = 12.9 m
Without glucocorticoids : mOS = 20.7 m

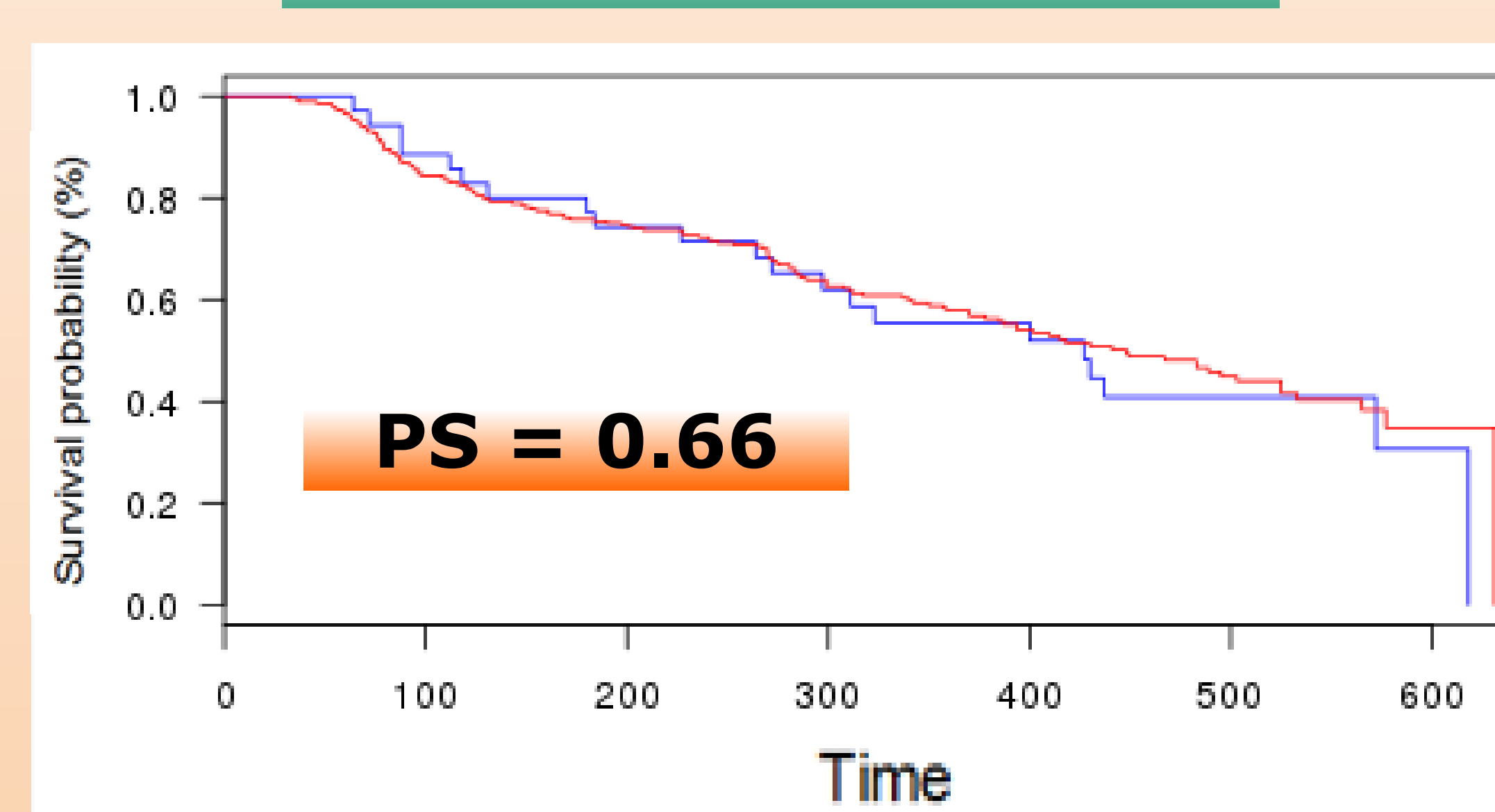
⇒ **mOS statistically significant**

ANTIBIOTICS



With antibiotics : mOS = 16.2 m
Without antibiotics : mOS = 11.5 m

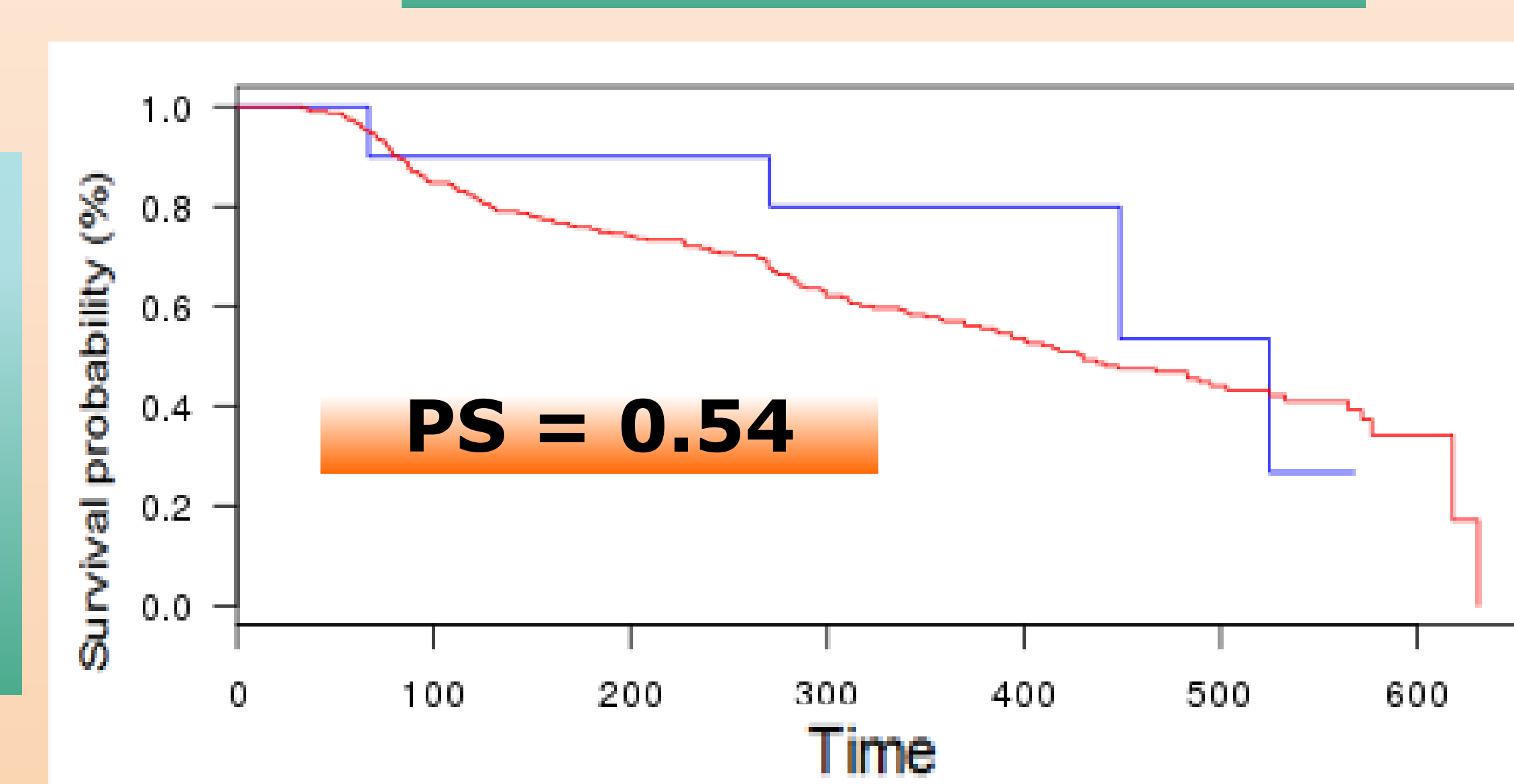
ANTIFUNGALS



With antifungals : mOS = 14 m
Without antifungals : mOS = 14.5 m

⇒ **Not statistically significant (low patient population)**

ANTIVIRALS



With antivirals : mOS = 17.2 m
Without antivirals : mOS = 14 m

Conclusion

❖ **Finding potential drug's interaction and lower impact of treatment, the good use of nivolumab et pembrolizumab was crucial to improve response rate and OS. Use of anti-infectious and glucocorticoids was usual in routine (61% and 47%).**

❖ According to these preliminary results about 325 patients, the impact of glucocorticoids seemed to be confirmed in patients receiving nivolumab et pembrolizumab for lung cancer. Next step would be to specify the prescribed dose, when it was dispensing compared to the anti-PD-1 treatment, ... and would allow looking for a possible dose effect.

❖ For antibiotics, our results are not in accordance with previous publications. It should be taken with caution. The types of antibiotics and time of dispensing and their possible impact would be focused next.

❖ Caution should be exercised on antifungals and antivirals treatment, number of patients are too small to make a definitive conclusion.

⇒ **An observational study, with a larger cohort, merging data from the CNAM and clinical data from the Observatory [IMMUNOUEST (id#1818)], would be held in order to complete these results in terms of response to treatments, PFS, OS, and toxicity (IMMUNITAIC).**