

# How do Transplanted Patients manage their risk of Non Melanoma Skin Cancer?

## A European online real-world study

Nicole Basset Seguin<sup>1</sup>, Josep Malvehy<sup>2</sup>, Lilianna Ulianova<sup>3</sup>, Myriam Condomines<sup>3</sup>, Roxane Beauchamp<sup>3</sup>, Roman Dos Santos<sup>4</sup>

<sup>1</sup> Institut de Recherche sur la Peau, Hôpital Saint-Louis, Paris, France; <sup>2</sup> Melanoma Unit, Department of Dermatology, Hospital clinic, Barcelona, Spain; <sup>3</sup> Pierre Fabre, Toulouse, France; <sup>4</sup> Carenity, Paris, France

### BACKGROUND

While organ transplants greatly improve patients' quality of life, transplant patients must nonetheless **take immunosuppressive drugs** to prevent organ rejection. Thus, new risks emerge, including a **higher chance of developing non-melanoma skin cancer (NMSC)**.

### OBJECTIVES

The objectives of the study were:

- To describe characteristics of patients with and without skin lesions.
- To better understand the skin monitoring after organ transplant.

### METHODS

- Carenity, a global online patient community enabled to recruit adult transplanted patients from four European countries (France, Spain, Germany and Italy).
- A questionnaire has been created from a verbatim analysis of those patients and has been validated by a medical review committee (2 dermatologists). 1 NMSC patient proofread the questionnaire.
- 200 responses** have been collected between March, 14<sup>th</sup>, 2018 and May, 16<sup>th</sup>, 2018.
- Excel 2013<sup>®</sup>** was used to perform the different analysis.
- R studio (v3.5.0)** was used to perform multiple correspondences analysis and statistical analysis. The p-value has been calculated for each analysis and may fall into one of the three cases: \* 0.05 < p ≤ 0.10; \*\* 0.05 ≤ p ≤ 0.01; \*\*\* p ≤ 0.01

### RESULTS

#### Respondents profile

- Respondents are virtually equally distributed among males and females (Fig 1).
- On average, patients were **37 years old** when transplanted with a mean time of **6 years since transplantation**.
- Kidney was the most frequent transplanted organ, followed by liver and heart (Fig 1).

#### Patients' medical profile regarding NMSC lesions

- German patients referred to have far more affected by skin lesions than the others (p-value <0.01\*\*\*) (Fig 2).
- While the **age at transplantation has a strong impact** on lesion development, surprisingly, this is **not the case for the elapsed time since the transplantation** according to patients' information (Fig 3).
- Among patients with lesions, **33% had precancerous lesions in the past, 28% have precancerous lesions today, 25% had cancerous lesions in the past and 19% have cancerous lesions today**. 3 patients have or had both precancerous and cancerous lesions

#### Patients' NMSC risk awareness

- A majority of patients were informed of the risk of developing lesions associated with their anti-rejection treatment (Fig 4).
- Neither the presence of skin lesions (Fig 5) nor the country of residence impact the level of information about the risk of developing precancerous/cancerous lesions.

#### NMSC risk monitoring

- Related to this risk, a majority of transplanted patients are monitored by a dermatologist, followed by the general practitioner (GP). Still, 7% are not monitored.
- 27% of patients check their skin by themselves and patients with skin lesions do less self-monitoring than those without lesions (Fig 6).
- French patients are checking themselves more often than patients from other countries (38% vs. between 19% and 27%).
- 71% of patients see their GP at least every 3 months and 36% their dermatologist at this frequency.
- When looking at patients monitored by a dermatologist, German patients are monitored more often than the others: 64% are monitored at least every three months (Fig 7).
- When the general practitioner is involved in NMSC risk follow-up, Italian patients see him more often (84% are monitored at least once every 3 months) (Fig 8).
- A medical follow-up creates a significant burden, especially regarding the stress associated with the announcement of skin cancer.
- Skin monitoring seems to be more burdensome for patients with lesions, especially regarding visit frequency, visit duration, and stress related to skin cancer. (Fig 9).

#### Current preventive strategies

- To prevent the development of skin lesions, patients protect themselves using sunscreens, avoiding sun exposure or wearing adapted clothes (Fig 10).
- Patients with lesions do not seem to protect themselves with more diligence than the others (Fig 11).
- Spanish patients seem to protect themselves from the sun with sunscreens more regularly than the others. German patients protect themselves with classical sunscreens quite regularly but apply high protection sunscreens not very often.

Fig 1: Characteristics of respondents

Age, Mean	Gender	Top 3 transplanted organs	Presence of skin lesions	
43.2 y/o	Male 54% (n=108) Female 46% (n=92)	Kidney 67% (n=134) Liver 24% (n=48) Heart 8% (n=15)	Lesions (n=64) 32%	No lesions (n=136) 68%

Fig 2: Presence of skin lesions depending on the country  
p: < 0.01 \*\*\*

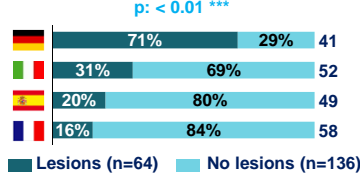


Fig 3: Presence of skin lesions depending on the date of transplantation  
p: 0.34

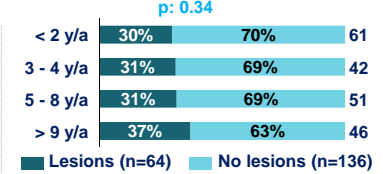


Fig 4: NMSC Risk awareness level

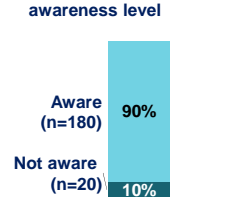


Fig 5: NMSC Risk awareness level depending on the presence of skin lesions  
p: 0.96

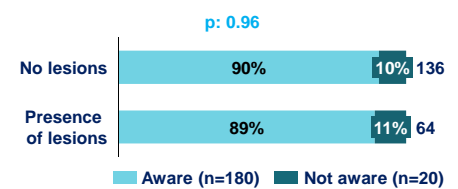


Fig 6: NMSC Risk monitoring depending on the presence of skin lesions

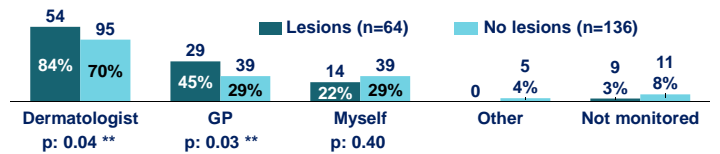


Fig 7: NMSC Risk monitoring frequency by a dermatologist (n=149)

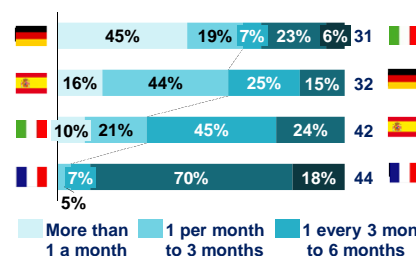


Fig 8: NMSC Risk monitoring frequency by a GP (n=68)

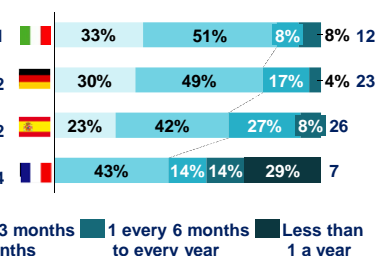


Fig 9: Inconveniences implied by skin monitoring

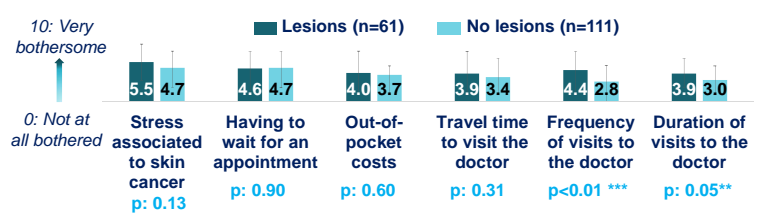


Fig 10: Patients' sun protection strategies

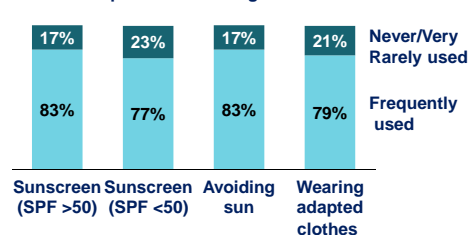
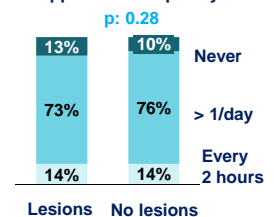


Fig 11: Sunscreen application frequency  
p: 0.28



### CONCLUSIONS

These results emphasize the awareness of transplant patients regarding the development of skin lesions (9 out of 10 patients had been informed of this risk). Most Transplant Patients benefited from a regular medical follow-up to prevent them from the risk of lesions, which represents an important burden for patients, mainly due to the stress associated with skin cancer and to the delay in getting their medical appointment. Despite the regular medical follow-up, most patients kept adopting risky behaviors regarding the sun.