

# ASSESSING A ONE-YEAR STANDARDIZED PHOTO-PROTECTION OVER A CLASSICAL SKIN CARE ROUTINE. THE BRAZILIAN EXPERIENCE

F.Flament<sup>1</sup>, DG.Mercurio<sup>2</sup>, E.Catalan<sup>1</sup>, E.Bouhadana<sup>3</sup>, AL.Demessant<sup>4</sup>, C.Le Floc'h<sup>4</sup>, C.Delaunay<sup>1</sup>, M.Cassier<sup>1</sup>, T.Passeron<sup>5,6</sup>

<sup>1</sup> L'Oréal Research and Innovation, Clichy, France

<sup>2</sup> L'Oréal Research and Innovation, Rio de Janeiro, Brazil

<sup>3</sup> L'Oréal Paris, Clichy, France

<sup>4</sup> La Roche Posay Laboratoire Dermatologique, Levallois-Perret, France

<sup>5</sup> Université Côte d'Azur, CHU Nice, Department of Dermatology, Nice, France

<sup>6</sup> Université Côte d'Azur, INSERM, U1065, C3M, Nice, France



## 1 INTRODUCTION & OBJECTIVES

Long-term studies dealing with the photoaging process are scarce, mostly for practical issues. This study was to assess, in real-life conditions, the effectiveness of a strong photoprotection (SPF 60, PPD=24, [UVA/UVB]>1/3) in counteracting the photoaging process of some facial signs over a one-year period of twice-daily applications.

## 2 MATERIALS & METHODS

Two groups, among 290 Brazilian women aged 30–65y, were constituted and well-balanced in ages and phototypes (II–VI). For one year, one group kept on its routine whereas the second group applied twice daily a strong photoprotective product. Standardized photographs were taken (D0/D365) that were further analyzed by 15 dermatologists. The latter established a grading score in the severity of 8 signs (wrinkles/pigmentation), using referential illustrations. Subjects of the second group were asked (D90/D365), to fill a questionnaire dealing with their self-perception of their skin status.

## 3 RESULTS & DISCUSSION

Overall, in both groups, the 8 signs showed a slight severity increase over one year:

**Table 1:** Changes in facial grading scores observed after one year without (Group 1) and with (Group 2) a standardized highly photo-protective regimen in two phototypes clusters (II-III and IV-VI)

Facial Signs	Phototype II-III			Phototype IV-VI		
	Group 1 (D365-D0)	Group 2 (D365-D0)	Δ Group 1 vs. Δ Group 2	Group 1 (D365-D0)	Group 2 (D365-D0)	Δ Group 1 vs. Δ Group 2
Forehead wrinkles	0.21 S ; p<0.05	0.12 S ; p<0.05	S ; p<0.05	0.05 S ; p<0.05	0.00 NS	NS
Glabellar wrinkles	0.04 NS	0.07 S ; p<0.05	NS	0.07 S ; p<0.05	0.05 S ; p<0.05	NS
Crow's feet wrinkles	0.31 S ; p<0.05	0.31 S ; p<0.05	NS	0.28 S ; p<0.05	0.24 S ; p<0.05	NS
Marionette lines	0.13 S ; p<0.05	0.13 S ; p<0.05	NS	0.24 S ; p<0.05	0.09 S ; p<0.05	S ; p<0.05
Wrinkles created by lower face ptosis	0.01 NS	-0.03 NS	S ; p<0.05	0.00 NS	-0.02 NS	NS
Contrast of isolated pigmentary spot	0.10 S ; p<0.05	0.07 NS	NS	0.09 S ; p<0.05	0.03 NS	S ; p<0.05
Size of an isolated pigmentary spot	0.06 S ; p<0.05	0.03 NS	NS	0.05 S ; p<0.05	0.00 NS	S ; p<0.05
Density of pigmentary spots	0.07 S ; p<0.05	0.00 NS	S ; p<0.05	0.05 S ; p<0.05	0.05 S ; p<0.05	NS
Wrinkles & skin texture (5 signs)	0.16 S ; p<0.05	0.13 S ; p<0.05	S ; p<0.05	0.13 S ; p<0.05	0.07 S ; p<0.05	S ; p<0.05
Pigmentation signs (3 signs)	0.05 S ; p<0.05	0.05 S ; p<0.05	NS	0.05 S ; p<0.05	0.00 NS	S ; p<0.05

S=significant; NS=Not Significant

The use of standardized high photoprotection sunscreen versus the usual routine (Group 1) significantly (p<0.05) prevented the exacerbation of photoaging over the four seasons (Table 1). The photoprotective regimen (Group 2) divided by more than half the impact in pigmentation signs and by almost a third the degradation of wrinkles and skin texture signs. Changes in Group 1 for wrinkles and pigmentation (8.5% and 5.5% respectively) were significantly higher than those observed in Group 2 (5.5% and 1.9%, respectively).

## 4 CONCLUSIONS

Daily usage of a high UV protection over the long term represents an efficient and necessary step to lessen the consequences of the photoaging process. Such effect could be even reinforced especially with a strong protection in the long UVA1 spectrum.

Changes observed in the phototypes' sub-groups suggest different mechanisms of action in the standardized photoprotective regimen where phototype II-III presented more significance for wrinkles and skin texture, whereas IV-VI showed both significance in wrinkles and pigmentation. Significant differences in facial scores were also reported between the two groups in phototype II-III subjects for forehead wrinkles and wrinkles by lower face ptosis, density of pigmentary spots and wrinkles and skin texture. When phototype IV-VI were analyzed, significant differences were revealed for Marionette lines, size and contrast of isolated pigmentary spots as well as wrinkles and skin textures and other pigmentary signs.

The effect of the photoprotective product seemed more evidenced as subjects self-declared being more sun-exposed daily (153 min/day vs. 123 min/day). Results suggest that the contribution of photoaging was approximately half that of global aging (chronological aging admixed with photoaging).

Self-questionnaire showed that skin was perceived as improved after usage of the photoprotective product (figure 1), with significance after 12 vs. 3 months of application in three aspects (less oily, more radiant and intensity of dark spots).

**Figure 1:** The self-assessment of subject's skin of Group 2 individuals following a twice daily application of a standardized photoprotective product represented in percentages (%) of self-perception (merging of "agree" and "somewhat agree") after 3 and 12 months of usage

