

EVALUATION OF THE EFFECTIVENESS OF A BROADSPECTRUM SUNSCREEN IN THE PREVENTION OF CHLOASMA IN PREGNANT WOMEN

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INTRODUCTION

Chloasma, or melasma, is a pigmentary disorder which can affect between 50 to 70% of pregnant women. During pregnancy, chloasma does not require any particular treatment beside the use of an effective sunscreen and avoiding the use of any photosensitizing products or inappropriate skin care routine. However, there exist very few studies related to the benefits of using a sunscreen to prevent this dermatosis (1,2).

The aim of this study was to assess the role of a broadspectrum sunscreen in the prevention and improvement of chloasma in pregnant women.

MATERIAL AND METHOD

During this study, we evaluated the effectiveness and tolerance of a sunscreen composition (SPF 50+, UVA-PF 28) during the course of a 12-month clinical trial carried out on 200 parturients.

Three or 4 visits were made: one at inclusion stage when the pregnancy was announced (T1), one optional visit at 3 months (T3), one at 6 months (T6) and the final one at the end of the pregnancy at 8 or 9 months (T8/9). At each visit, the correct application of the sunscreen preparation was recorded, as well as the frequency of occasional sun exposure and the changes in skin care routines, and each volunteer underwent dermatological examination, completed by Wood's light examination if facial hyperpigmentation was noted.

Thereafter, colorimetric measurements and photographs were taken.

CONCLUSION

This study clearly demonstrates the preventive effectiveness of the well tolerated broad-spectrum sunscreen against the development of chloasma in pregnant women. Thus the benefits of using an effective and correctly applied sunscreen to prevent and even improve this dermatosis are demonstrated.

REFERENCES

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2. Benchikhi H, Razoli H, Lakhdar H. Sunscreens : use in pregnant women in Casablanca. *Ann Dermatol Venerol.* 129: 387-390. (2002)

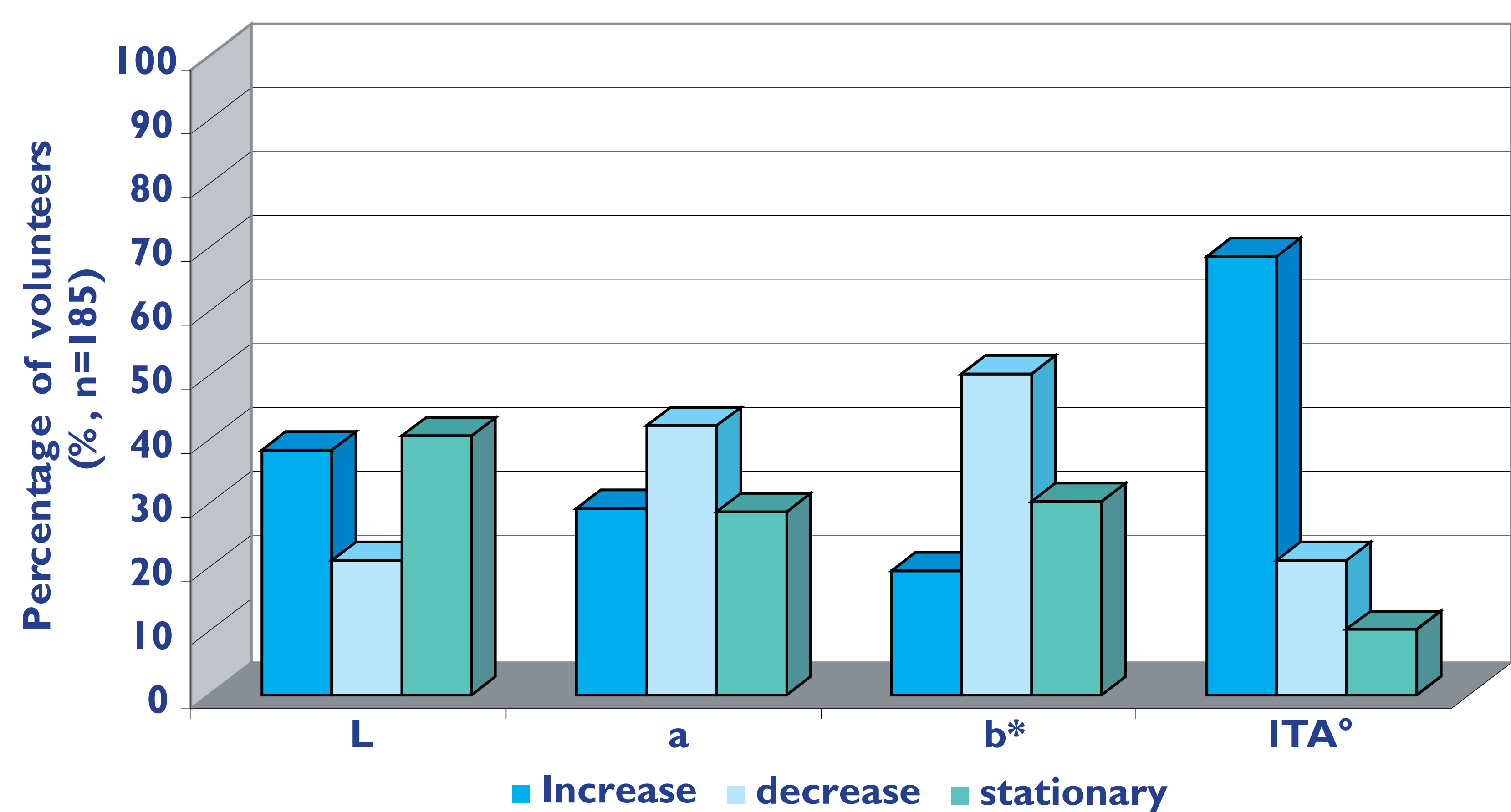
RESULTS

Clinical evaluation

The "excellent" tolerance of the sunscreen evaluated was confirmed. Out of the 185 patients who completed the study, only 5 new cases of chloasma were noted, an occurrence of 2.7%, which is much lower than the 53% previously observed in an usual condition study (same investigators, same geographical area and same time frame)(1). In addition, the clinical effectiveness of the evaluated sunscreen was judged "excellent", by the majority of parturients and by the research dermatologists during all the consultations. It is also worth noting that at 6 months, clinical improvement was observed in 8 out of 12 volunteers who were affected by a pre-existing chloasma observed during their inclusion visit

Colorimetric evaluation

The percentage of volunteers (n=185) presenting a positive, stationary or negative evolution between the inclusion visit and the final visit of the study (delta T8/9 - T1) for the 3 chromametric coordinates: L* (from dark to pale), a* (green to red) and b* (blue to yellow) as well as for the individual typological angle or ITA° are presented below.



Among the 185 parturients who completed the study, 38% finished with lighter skin (increased L*), 21% with darker skin and 41% with skin identical to inclusion. Parameter b* decreased in 50% cases, increased in 20% and remained stationary in 30%. Overall, 69% parturients (127 cases) finished with a lighter skin colour (increased ITA°), whereas 21% (39 cases) had a darker skin and 10% (19 cases) remained identical.

The average variation in colorimetric coordinates L*, a*, b* and ITA° between the inclusion visit (T1) and the 6, 8 or 9 month visits (T6 and T8/9) are summarized in this table :

Evaluation time (n = 185)	Parameter	Variation (delta)	p-value
6 months (delta T6-T1)	L*	0.7 + 0.3	0.23
	a*	-0.9 + 0.3	0.19
	b*	-0.8 + 0.1	0.11
	ITA°	2.7 + 0.5	0.15
8 or 9 months (Delta T8/9 - T1)	L*	0.7 + 0.4	0.05
	a*	-1.2 + 0.2	0.17
	b*	-0.6 + 0.0	0.04
	ITA°	2.9 + 1.1	0.05

Data are expressed as mean ± SD. p-value was evaluated by a Student's t test. p≤0.05 was considered statistically significant.

Our colorimetric measurements showed that, at the end of their pregnancy, the parturients' skin was, on average, significantly: -lightened (increase of parameter L* in 38% cases) -less pigmented (reduction of parameter b* in 50% cases); thus resulting a significantly lighter skin colour (increase of ITA° in 69% cases) compared to their inclusion visit.