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Qualification en Dermatologie et Vénéréologie

Photosensitive atopic dermatitis in adults: a real clinical entity?

Dermatite atopique photoaggravée de l'adulte : une réelle entité clinique ?

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Sous la direction de Madame le Docteur DELAUNAY Juliette

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LIST OF ABBREVIATIONS

AD	Atopic Dermatitis
Vs	Versus

PLAN

Photosensitive atopic dermatitis in adults: a real clinical entity?

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ABSTRACT

Introduction: Atopic dermatitis (AD) may be aggravated by sun exposure as well as perspiration and heat. Few data are available concerning photosensitivity in patients with AD, and the classical worsening of AD due to perspiration and heat is often a confusion bias in the publications. The aim of our study was to investigate the existence of a "photosensitive atopic dermatitis" phenotype and to establish its prevalence.

Materials and Methods: We conducted a descriptive, multicentric and prospective study including all AD adult patients presented in consultation. We used a questionnaire collecting, on one hand the patient's demographic characteristics and the history of AD, and on the other hand the following potential aggravating factors: sun, perspiration, heat.

Results: We collected a total of 131 questionnaires from 3 centers. Forty-three patients (32,8%) reported being worsened in the summer period. Of these, 7 patients (5,3%) declared being aggravated specifically by the sun ("photosensitive AD" group), 11 patients (8,4%) declared that their disease was worsened by the sun in association with perspiration and/or heat ("possible photosensitive AD" group), and 25 patients declared a worsening of skin lesions by perspiration and/or heat but not by the sun, the latter being therefore classified as "non-photosensitive AD". All patients in the "photosensitive AD" and "possible photosensitive AD" groups : - had eczema on the photo-exposed areas, especially on the face, compared with the "non-photosensitive AD" group (respectively $p<0,001$ and $p<0,005$); - were more often aggravated after phototherapy (respectively $p=0,1$ and $p=0,006$) - and had a phototype I or II. There was no otherwise significant difference between the "photosensitive AD" and "possible photosensitive AD" groups.

Conclusion: Many AD patients report being aggravated in the summer, but with no distinction between the responsibility of sun, perspiration or heat. Our questionnaire allowed us to

distinguish patients with a potential photosensitivity, taking into account the declarative bias. Thus, these results are helpful to better identify AD patients who could benefit from photobiological explorations.

INTRODUCTION

Atopic dermatitis (AD) is a pruritic, ubiquitous and common inflammatory dermatosis that typically begins in infants and young children and can persist into adulthood(1). The global prevalence of AD is estimated at 10-20% in children(2) and 2-5% in adults (3,4). In France, AD is estimated to affect 3,6% of adults.(4)

The benefits of solar radiation on chronic inflammatory dermatoses have been known for decades (5). Phototherapy was used for the first time in 1923 in the treatment of psoriasis (6), and in 1977 Warwick *et al* published the first series of cases of atopic dermatitis effectively treated by phototherapy (7). It is an effective and well-tolerated treatment with few contraindications, still used today as a second-line treatment for moderate-to-severe AD (8,9). However, a minority of patients reported an exacerbation of their eczema after ultraviolet exposure (natural or artificial). According to Vieluf *et al* around 10% of patients could be affected (10). Recent retrospectives studies including photodermatological explorations, found photosensitivity in 1,4%(11) to 3%(12) of AD patients.

In the dermatology literature and atlas, photosensitive atopic dermatitis is not referenced as such. However the notion of photosensitivity in atopic dermatitis may be found under various names : photosensitive eczema, photo-aggravated eczema, eczema aggravated by light (13,14). Confusion with other entities such as polymorphic light eruption (15,16) and moreover chronic actinic dermatitis is frequent (13,17,18). More recently, the concept of photosensitive atopic dermatitis appeared in the literature with the aim of identifying a real entity with its own clinical, and paraclinical characteristics. These criteria were established from retrospective and unicentric studies, with therefore several limitations (11,12). In each of these studies, the subjective notion of aggravation by sweating or heat, frequently reported by patients, was not taken into account. Ignoring these criteria, patients may have been excessively considered as photosensitive.

The aim of this preliminary prospective and multicentric study was, on one hand, to estimate the prevalence of a "photosensitive DA", and on the other hand to describe its clinical characteristics.

PATIENTS AND METHODS

This descriptive, prospective and multicentric study was conducted between May 2019 and January 2020 in 3 French dermatology departments: Lille University Hospital Center, Angers University Hospital Center and Le Mans Hospital Center. All patients fulfilling the validated criteria for AD (19) admitted in consultation were included. Patients under 18 and with history of another photodermatosis (polymorphic light eruption, lupus, skin porphyria, solar urticaria…) were excluded.

Patients were asked to fill a questionnaire, which has been validated by the French society of photodermatology (SFPD) and the French research group on atopic dermatitis (GREAT) (Appendix I). This questionnaire was divided into two parts. The first part concerned the characteristics of the patients, history of their disease, severity of the disease using the scores SCORAD and EASI (moderate for SCORAD between 25 and 50 and EASI between 7 and 21, and severe for a SCORAD> 50 and EASI> 21) and three questions in order to find a possible photosensitivity:

- Is AD worsened in summer? If so, is it worsened by the sun, sweating or heat?
- Is there eczema on the photoexposed areas? Were considered as photoexposed areas, the face, the neckline, the upper limbs, and lower limbs.
- Is there a history of worsening after phototherapy?

The second part of the questionnaire concerned characteristics of the photosensitivity if suspected regarding the first questions, and the differential diagnosis with other photodermatoses including drug-induced photoreactions (using an additional annex sheet with pictures of the topical photosensitizers most commonly applied). (Appendix II)

RESULTS

A total of 131 patients were included with an average age of 35,7 years (18-69 years). There were 69 women (52,7%) and 62 men (47,3%). Half of the patients had a clear phototype, either I ou II according to the Fitzpatrick classification. For 83% of the patients, AD had started in childhood and about 40% of the patients had atopic comorbidities, with asthma and rhinitis predominating. The included patients had, on average, AD of moderate severity (Table I).

Table I. Severity scores of patients at inclusion.

Severity score	**Mean (extremes)**
EASI	10,42 (0* – 78,8)
SCORAD	24,8 (0* – 88,5)
DLQI	8,1 (0* – 28)

** scores equal to 0 were obtained under treatment*

The different treatments for AD used at the time of inclusion are summarized in table II.

Table II. Ongoing treatments at the inclusion.

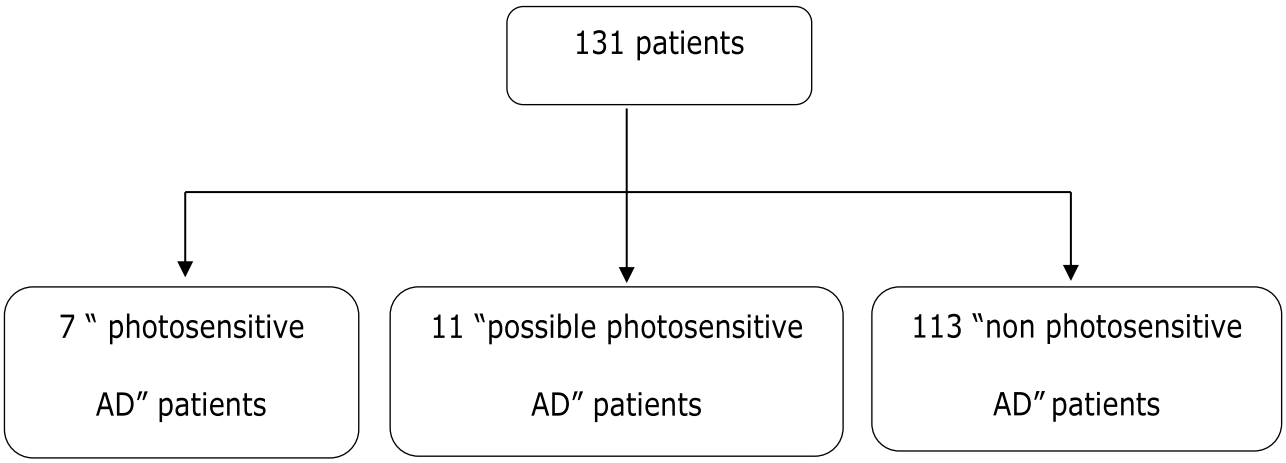
Treatments	**Number of patients (%)**
Topical steroids	90 (68,7%)
Topical Tacrolimus	34 (26%)
Phototherapy	2 (1,5%)

Ciclosporin	51 (38,9%)
Methotrexate	16 (12,2%)
Dupilumab	27 (20,6%)
Tofacitinib	2 (1,5%)
Tralokinumab	1 (0,7%)
Azathioprine	1 (0,7%)

Of these 131 patients, 43 (32,8%) reported worsening in the summer. Of these, 7 patients (5,3%) reported being aggravated by sunlight only, this group was considered "photosensitive". Eleven patients (8,4%) reported being aggravated by the sun but also by perspiration and/or heat, this latter group was considered as "possibly photosensitive". Twenty-five patients reported being aggravated in the summer but rather by sweating and/or heat and not by the sun, they were therefore classified in the "non-photosensitive group".

The final distribution of patients is summarized in figure 1.

Figure 1. Distribution of patients



Firstly, the 7 patients in the "photosensitive AD" group were compared to the 113 patients in the "non-photosensitive AD" group (table III).

There were no significant differences between groups on age, sex, phototype, severity scores. However, 100% of the patients with "photosensitive AD" had eczema lesions on photoexposed area compared to 17,7% of patients in the "non-photosensitive AD" group (p<0,001).

Table III. Comparisons of demographic and clinical characteristics of patients in "photosensitive AD" group versus (vs) patients in "non-photosensitive AD" group

	PHOTOSENSITIVE AD	**NON-PHOTOSENSITIVE AD**	**p**
Total	7	113	
Men	3 (42,9%)	55 (48,7%)	1
Women	4 (57,1%)	58 (51,3%)	1
Mean age (extremes)	38,4 (25 – 57)	35,1 (18 – 61)	0,5
Phototype < III	4 (57,1%)	52 (out of 109 patients, ie 47,7%)	0,7
Phototype ≥ III	3 (42,9%)	57 (52,3%)	0,7
History of phototherapy	6 (85,7%)	48 (42,4%)	0,04
Aggravation after phototherapy	2 (33,3%)	4 (8,3%)	0,13

Mean SCORAD at inclusion	15,4 (*n=4)	23,4 (*n = 64)	0,4
Mean EASI at inclusion	3,3 (*n=5)	10,6 (*n=86)	0,3
Mean DLQI at inclusion	5,5 (*n=6)	7,75	0,4
Involvement of photo-exposed areas	7 (100%)	20 (17,7%)	**<0,001**

** "n" is the number of patients for whom data was available.*

Then, in a second step, the 11 patients with "possible photosensitive AD" were compared to the 113 patients of the "non-photosensitive AD" group (table IV). There were no significant differences in sex, age or phototype. Patients in the "possible photosensitive AD" group had a more severe AD compared to "non-photosensitive" patients with a mean SCORAD of 36,3 versus 23,4 (p= 0,05).

As with "photosensitive patients", 100% of patients in the "possible sensitive AD" group had eczema of the photoexposed areas compared to 17,7% of patients in the "non-photosensitive AD" group (p<0,005). Moreover, three-quarters of patients in the "possible photosensitive AD" group had aggravation of their eczema after one or more phototherapy sessions compared to 8% of patients in the "non-photosensitive AD" group (p<0,05).

Table IV. Comparisons of demographic and clinical characteristics of patients in "possible photosensitive AD" group versus patients in "non-photosensitive AD" group

	POSSIBLE PHOTOSENSITIVE AD	**NON-PHOTOSENSITIVE AD**	**p**
Total	11	113	
Men	4 (36,4%)	55 (48,7%)	0,5
Women	7 (63,6%)	58 (51,3%)	0,5
Mean age (extremes)	40 (18 – 69)	35,1 (18 – 61)	0,5
Phototype < III	7 (63,6%)	52 (*n = 109, ie 47,7%)	0,36
Phototype ≥ III	4 (36,4%)	57 (52,3%)	0,36
History of phototherapy	4 (36,4%)	48 (42,5%)	0,7
Aggravation after phototherapy	3 (75%)	4 (8,3%)	**0,006**
Mean SCORAD at inclusion	36,6 (*n = 10)	23,4 (*n = 63)	**0,05**
Mean EASI at inclusion	13,5 (*n= 7)	10,6 (*n = 86)	0,09
Mean DLQI at inclusion	12,8 (*n= 10)	7,75 (*n = 97)	0,1

Involvement of photo-exposed areas	11 (100%)	20 (17,7%)	**<0,005**

* *"n" is the number of patients for whom data was available.*

Finally, patients in the "photosensitive AD" group were compared to patients in the "possible photosensitive AD" group (table V). The groups were comparable in all respect, with no significant differences. No patient had taken photosensitizing drug, 2 patients of the "photosensitive DA" group and 4 of the "possible photosensitive DA" group reported having already applied photosensitizing topicals, without significant difference between the groups.

Table V. Comparisons of demographic characteristics of patients in "photosensitive AD" group versus patients in "possible photosensitive AD" group.

	PHOTOSENSITIVE AD	**POSSIBLE PHOTOSENSITIVE AD**	**p**
Total	7	11	
Men	3 (42,9%)	4 (36,4%)	1
Women	4 (57,1%)	7 (63,6%)	1
Mean age	38,4	40	1
History of phototherapy	6 (85,7%)	4 (36,4%)	0,06

Aggravation after phototherapy	2 (33,3%)	3 (75%)	0,5
Mean SCORAD at inclusion	15,4 (*n=4)	36,6 (*n = 10)	0,1
Mean EASI at inclusion	3,3 (*n=5)	13,5 (*n= 7)	0,1
Mean DLQI at inclusion	5,5 (*n=6)	12,8 (*n= 10)	0,2
Previous photosensitizing treatment	0	0	
Previous photosensitizing topical	2 (28,6%)	4 (36,4%)	1

** "n" is the number of patients for whom data was available.*

The 2 groups were also clinically comparable (table VI). In both groups, there were more patients with a clear phototype, all patients had eczema of the photoexposed areas, with no significant difference according to the site of lesions.

Table VI. Comparisons of clinical characteristics of patients in "photosensitive AD" group versus patients in "possible photosensitive AD" group.

	PHOTOSENSITIVE AD	**POSSIBLE PHOTOSENSITIVE AD**	**p**
Phototype < III	4 (57,1%)	7 (63,6%)	1
Phototype ≥ III	3 (42,9%)	4 (36,4%)	1
Involvement of photo-exposed areas	7 (100%)	11 (100%)	1
Lesions seat			
- all exposed areas	4 (57%)	6 (54,5%)	1
- face	7 (100%)	9 (81,8%)	0,5
- neckline	5 (71,4%)	9 (81,8%)	1
- upper limb	5 (71,4%)	9 (81,8%)	1
- lower limb	5 (71,4%)	8 (72,7%)	1

The photosensitivity characteristics for each of these groups are summarized in table VII. Again, there were no significant differences between the groups.

Table VII. Comparison of photosensitivity characteristics of patients in "photosensitive AD" group versus patients in "possible photosensitive AD" group.

	PHOTOSENSITIVE AD	**POSSIBLE PHOTOSENSITIVE AD**	**p**
Evolution of photosensitivity:	(*n=4)		
- < 6 weeks	0	1 (9,1%)	1
- 2-11 months	1 (25%)	1 (9,1%)	0,5
- > 1 year	0	3 (27,3%)	0,5
- > 5 years	3 (75%)	6 (54,5%)	0,6
Season	(*n=6)		
- winter	2 (33,3%)	0	0,1
- spring	1 (16,7%)	3 (27,3%)	1
- summer	6 (100%)	11 (100%)	1
- autumn	1 (16,7%)	0	0,35
	(*n =6)		
- everyday activity	4 (66,7%)	10 (90,9%)	0,5
- holidays	3 (50%)	9 (81,8%)	0,3
- both	1 (16,7%)	8 (72 ,7%)	0,05
	(*n=6)	(*n = 10)	
- city	5 (83,3%)	10 (100%)	0,4
- campaign	3 (50%)	7 (70%)	0,6
- mountain	2 (33,3%)	4 (40%)	1

	(*n=6)		
- bright sunlight	6 (100%)	11 (100%)	1
- cloudy sky	1 (16,7%)	2 (18,2%)	1
- behind window	0	5 (45,5%)	0,1

* *"n" is the number of patients for whom data was available.*

DISCUSSION

It was not possible with this study to estimate the prevalence of photosensitive AD. Firstly because of the low number of patients included, secondly because the photosensitivity of the patients of the "photosensitive AD" group as well as the patients of the "possible photosensitive AD" group should have been confirmed by photodermatological explorations.

Considering only patients aggravated by the sun, the prevalence of photosensitive AD in this study would be 5,3% (7/131). However, this value could be underestimated as it does not consider patients with a "possible photosensitive AD" (patients aggravated by sun and perspiration and/or heat), who may be truly photosensitive.

In the literature, there are very few publications on photosensitive AD as a separate entity. Moreover, the photosensitivity is rarely confirmed by photobiological explorations. In 2009, Berge *et al* published a retrospective study including 3804 patients with AD (12). Among them, 145 patients underwent photodermatological explorations in front of a clinical suspicion of photosensitivity, and 108 presented a pathological reaction (eczematous or papular reaction). Berge *et al* therefore found a prevalence of photosensitivity at 3% (108/3804). The second retrospective study, conducted by Ellenbogen *et al* in 2016 (11), included 17 patients with AD associated with photosensitivity. Sixteen of them performed photodermatological explorations and all of them had pathological reactions. Comparing these results to the other 1196 atopic patients managed in their department, their prevalence was approximately 1,4%. In these two studies, the prevalence could have been minimized because photodermatological explorations were not routinely performed in all atopic patients, but only when there was a suspicion of photosensitivity, the criteria of which were not well detailed.

The strength of our present study is the consideration of subjective factors of AD aggravation such as sweating or heat, which can be significant confounding biases. Indeed, these last two

factors are known to be potential aggravating factors in AD. The study by JR Williams *et al* (20) collected 225 questionnaires from atopic children studying 19 potential aggravation factors. Of these, 42% and 40% reported being aggravated by perspiration and heat respectively and 16% by sunlight. The number of patients aggravated by several of these factors at the same time was not specified.

In our study, few differences were observed between the 3 groups studied. When comparing the "photosensitive AD" vs "non-photosensitive AD" groups and the "possible photosensitive AD" vs "non-photosensitive AD" groups, the only consistently significant variable is involvement of the photoexposed areas. This result is not surprising and is one of the clinical criteria for suspicion of photosensitivity. Another interesting interrogation parameter is the notion of AD aggravation after phototherapy. It concerned about one third of our patients with "photosensitive AD", three quarters of patients with "possible photosensitive AD" and 8% of non-photosensitive patients. There is probably a reporting bias contributing to the disparity in the results. Some patients could have been able to identify a "non-remission" or rebound on stopping phototherapy as a worsening of their eczema; or a worsening may have been misinterpreted as a non-response to treatment. Aggravation of AD after phototherapy is rare but has been reported in several studies testing UVA and/or UVB, with no reported photosensitivity (21–23).

This study did not allow us to identify specific clinical characteristics of patients with "photosensitive AD". However, these patients tended to have a clearer phototype than "non-photosensitive" patients (more than 50% had phototype I or II). Thus, these patients are more prone to sunburn which can be misinterpreted as photosensitivity.

Severity scores appeared to be less important in patients with "photosensitive AD". This result is more surprising as many inclusions were made during summer. This data was not found in the "possible photosensitive AD" group, in which, on the contrary, the SCORAD was significantly higher than for "non photosensitive patients". Knowing that these patients were aggravated both by sun exposure and by perspiration and/or heat, it is understandable that their AD was more severe in summer.

Many patients did not know how to distinguish an aggravation only by the sun or also by perspiration and / or heat. To better characterize the photosensitivity of our patients and to identify specific clinical characteristics, the patients were separated into 2 groups ("photosensitive AD" and "possible photosensitive AD") then compared with each other. No difference was demonstrated; therefore these 2 groups were clinically similar. In other words, there are no clinical or interrogation criteria that distinguish these three aggravating factors. The small number of groups may have contributed to the lack of significant results.

Clinically, 100% of "photosensitive patients" and 80% of patients in the "possible photosensitive AD" group had facial eczema. The other photoexposed areas were affected in more than 70% of cases. Curiously, only 57% of patients had eczema of all photoexposed areas. Many patients were included outside of an eczema flare-up, so the notion of eczema of photoexposed areas was collected during interrogation. It is possible that this notion would not have been clearly defined by the clinician and therefore misunderstood by the patient, thus creating an information bias. In addition, the photoprotection measures (topical or clothing) applied by the patient were not collected, making it difficult to interpret the data.

Same results are found in Ellenbogen's *et al* study (11) in which more than 95% of patients with "photosensitive AD" had eczema lesions on the face. Neckline and arms were affected in

about 80% of cases, and for 50% of cases legs, shoulder and back were affected. These results were not discussed, as no other information was reported that could explain these disparities. Deguchi *et al*, performed phototesting in 120 randomly selected subjects with atopic dermatitis and found that 8 patients showed an abnormal response to ultraviolet B (UVB) and / or ultraviolet A (UVA) light (24). All 8 patients had an exacerbation of facial lesions. They then carried out another study on 74 atopic patients with persistent facial eczema (25). Among them, 41 (55%) reported that their facial lesions were exacerbated after sun exposure including 28 for whom the exacerbation lasted more than 48 hours after sun exposure. Twenty-two patients with prolonged sun aggravation performed phototesting and 14 had a pathological reaction (with normal or decreased MEDs).

To eliminate a drug induced photosensitivity, a history of drug or topical photosensitizing was collected. None had taken drugs, 2 patients in the "photosensitive AD" group and 4 in the "possible photosensitive AD" group reported having already used a topical photosensitizer, *ie* a third of the patients in total (6/18). The duration of use of the topical photosensitizer, and whether it coincided with the notion of aggravation of eczema, was not specified. This data was therefore difficult to interpret but may have been a potential confusion bias and may have overstated the number of "photosensitive" or "possible photosensitive" patients.

In our study, one case was aggravated on cloudy days and none behind glass. Although we did not perform photobiological tests, this suggests that the role of UVA (26) does not seem to play a major role in our patient's photosensitivity, contrary to data of the literature.
Ellenbogen *et al* (11) found a reaction to UVA in 56% of their patients, the remaining patients (44%) had positive phototests in both UVB and UVA. Conversely, according to Berge *et al* (12), 75% of his patients had positive phototests in both UVA and UVB and 17% in UVA alone.

Similar results were found in another retrospective study (27) including 13 atopic children who performed photobiological investigations. Seven (54%) had positive phototests in both UVB and UVA and 1 in UVA alone.

This preliminary study had several limitations leading to an extremely cautious interpretation of the results. It concerned a small number of patients, consultants in the Dermatology Department of Hospital Centers, and does not reflect the reality of patients suffering from atopic dermatitis in France. Most of the data was collected by the practitioner during the consultation, however a large part of the information came from questioning the patient, particularly subjective data, sources of memory bias or reporting bias. It is possible that several patients may have been misclassified into the "photosensitive AD" or "possible photosensitive AD" groups. This is in part due to the difficulty for patients to distinguish the aggravating factors of their eczema between sun, sweating and heat.

CONCLUSION

This study provides additional data on photosensitive AD. It allows us to target a population suspected of photosensitivity and to best determine which patients would benefit from photodermatological explorations. The latter would be atopic patients with clear phototypes who claim to be aggravated in summer by the sun, perspiration, or heat, with eczema of the photoexposed areas, particularly the face, and who have worsened after phototherapy sessions. However, photodermatological tests are not always feasible in clinical practice. They require expensive and specialized equipment, special training and skills, and strict cooperation from the patients. Thus, this first step of identifying patients suspected of photosensitivity may in certain situations be sufficient to propose an adapted treatment, including strict photoprotection advice, and avoiding phototherapy sessions in the event of topical steroid failure.

However, our study failed to give a prevalence of photosensitive AD in adults. The interview and the data collection by questionnaire were not sufficiently discriminatory to obtain significant results and establish a formal diagnosis of photosensitive atopic dermatitis with specific clinical characteristics. These results suggest that a further broader study with such a questionnaire would not be relevant for establishing the prevalence of photosensitive AD.

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APPENDICES

Appendix I: questionnaire submitted to the patient

Fiche Dermatite atopique photosensible chez l'adulte 1

Nom du médecin / Centre : Date : N°

Patient Initiales : Nom |__|__| Prénom |__|__|

Masculin □ Féminin □ Age :

Age de début de la DA :

Siège de début de la DA

Visage □ Plis des coudes □ Plis des genoux □ Autre □ préciser :

Autres manifestations actives d'atopie

Asthme □ Rhinite □ Conjonctivite □

Traitement de DA : DC : dermocorticoÏdes - ICT : tacrolimus (Protopic®) – MTX : méthotrexate

Anciens DC □ ICT □ Photothérapie □ Ciclosporine □ MTX □ Dupilumab □ Autre □ (préciser)

Actuels DC □ ICT □ Photothérapie □ Ciclosporine □ MTX □ Dupilumab □ Autre □ (préciser)

Antécédents d'atopie

Personnels : Asthme □ Rhinite □ Conjonctivite □

Familiaux : Père DA □ Asthme □ Rhinite □ Conjonctivite □

Mère DA □ Asthme □ Rhinite □ Conjonctivite □

Fratrie DA □ Asthme □ Rhinite □ Conjonctivite □

Autre (préciser)

Autres antécédents notables (préciser)

Phototype (selon Fitzpatrick) entourer : I II III IV V VI

Gravité de la DA actuelle : SCORAD/EASI : DLQI :

Dermatite atopique et soleil

1-Notion d'aggravation de la DA l'été (C'est-à-dire est-ce que le soleil déclenche de l'eczéma sur les parties découvertes)

oui □ non □

Si oui les lésions sont-elles déclenchées par :

la chaleur □ la transpiration □ le soleil □

2-Notion d'eczéma des parties exposées au soleil oui □ non □

Préciser lesquelles :

3-Notion d'aggravation de la DA après photothérapie oui □ non □

Si oui à l'une de 3 questions précédentes : remplir la feuille 2

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Fiche Dermatite atopique photosensible chez l'adulte 2

Suspicion de DA photoaggravée

- **Antécédents ou prise actuelle** de médicaments photosensibilisants oui □ non □

Si oui : Préciser le ou lesquels (*annexe fiche médicaments photosensibilisants – cf site SFPD)*)

- **Antécédents ou application actuelle** de topiques photosensibilisants (AINS, phénothiazines, produits de protection solaire) *montrer les photos des tubes des médicaments (en annexe)* oui □ non □

Si oui : préciser le ou lesquels

- **Age de début** de la photosensibilité :

ou évolution depuis : moins de 6 semaines □ 2 à 11 mois □ plus d'un an □ plus de 5 ans □

- **Conditions d'apparition** des lésions au soleil

Saison : hiver □ printemps □ été □ automne □

Circonstances : vie quotidienne □ vacances □

Lieux : ville □ campagne □ montagne□ régions tropicales □

Ensoleillement : Plein soleil □ Ciel nuageux □ Derrière une vitre □

- **Aspect des lésions** cutanées au soleil

Eczématiforme □

Lichénoïde □

Autre □ (préciser)

Photographies oui □ non □

Histologie oui □ non □

- **Siège des lésions**

Toutes zones exposées : oui □ non □

Si non préciser : visage □ décolleté □ membres supérieurs □ membres inférieurs □

- **Exploration photodermatologique** oui□ non□

Si oui : résultats (préciser appareillage utilisé)

DEM UVB :

DEM UVA :

Phototest itératif (reproduction des lésions) : dose < 5 DEM au total :

Résultat à J8 :

Résultat à J21

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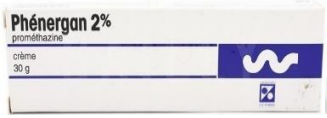
Appendix II: pictures of topical photosensitizers

Kétoprofène

Etofénamate (pas d'AMM en France)

Diclofénac

Benzydamine (pas d'AMM en France)



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LETZELTER Mathilde

Dermatite atopique photoaggravée de l'adulte : une réelle entité clinique ?

RÉSUMÉ

Introduction : La dermatite atopique (DA) pourrait être aggravée par l'exposition solaire, autant que par la transpiration et la chaleur. Peu de publications ont été rapportées sur une réelle photosensibilité dans la DA, et aucune ne prenait en compte ces autres facteurs aggravants, source de biais de confusion.
Le but de notre étude était de rechercher l'existence d'un phénotype « dermatite atopique photosensible » et d'établir sa prévalence.
Matériels et Méthodes : Il s'agit d'une étude descriptive, multicentrique et prospective incluant tous les patients atopiques adultes se présentant en consultation. Ces derniers remplissaient avec l'aide du médecin un questionnaire étudiant d'une part les caractéristiques démographiques du patient et l'histoire de sa DA, et d'autre part les potentiels facteurs d'aggravation suivants : soleil, transpiration, chaleur.
Résultats : Nous avons recueillis au total 131 questionnaires provenant de trois centres. Quarante-trois patients (32,8%) déclaraient être aggravés l'été. Parmi eux, 7 patients (5,3%) déclaraient être aggravés spécifiquement par le soleil (groupe « DA photosensible »), 11 patients (8,4%) étaient aggravés par le soleil et la transpiration et/ou la chaleur (groupe « DA photosensible possible »), et 25 patients étaient aggravés par la transpiration et ou la chaleur mais pas par le soleil, ces derniers étant donc classés comme « non photosensibles ».
Les patients des groupes « DA photosensible » et « DA photosensible possible » avaient tous un eczéma des zones photoexposées comparativement au groupe « DA non photosensible » (respectivement $p<0,001$; $p<0,005$), notamment au visage ; ils étaient plus souvent aggravés après la photothérapie (respectivement $p=0,1$; $p=0,006$), et avaient un phototype I ou II.
Il n'y avait pas de différence significative entre les groupes « DA photosensible » et « DA photosensible possible ».
Conclusion : Beaucoup de patients déclarent être aggravés l'été, mais il leur est difficile de distinguer une aggravation véritablement par le soleil, la transpiration ou la chaleur. Notre questionnaire nous a permis de distinguer les patients présentant une photosensibilité potentielle, en tenant compte du biais déclaratif. Ainsi, ces résultats permettent de mieux identifier les patients atopiques pouvant bénéficier d'explorations photobiologiques.

Mots-clés : Dermatite atopique, photosensibilité, exploration photobiologique

Photosensitive atopic dermatitis in adults: a real clinical entity?

ABSTRACT

Introduction: Atopic dermatitis (AD) may be aggravated by sun exposure as well as perspiration and heat. Few data are available concerning photosensitivity in patients with AD, and the classical worsening of AD due to perspiration and heat is often a confusion bias in the publications. The aim of our study was to investigate the existence of a "photosensitive atopic dermatitis" phenotype and to establish its prevalence.
Materials and Methods: We conducted a descriptive, multicentric and prospective study including all AD adult patients presented in consultation. We used a questionnaire collecting, on one hand the patient's demographic characteristics and the history of AD, and on the other hand the following potential aggravating factors: sun, perspiration, heat.
Results: We collected a total of 131 questionnaires from 3 centers. Forty-three patients (32,8%) reported being worsened in the summer period. Of these, 7 patients (5,3%) declared to be aggravated specifically by the sun ("photosensitive AD" group), 11 patients (8,4%) declared that their disease was worsened by the sun in association with perspiration and/or heat ("possible photosensitive AD" group), and 25 patients declared a worsening of skin lesions by perspiration and/or heat but not by the sun, the latter being therefore classified as "non-photosensitive AD". All patients in the "photosensitive AD" and "possible photosensitive AD" groups : - had eczema on the photo-exposed areas, especially on the face, compared with the "non-photosensitive AD" group (respectively $p<0,001$ and $p<0,005$); - were more often aggravated after phototherapy (respectively $p=0,1$ and $p=0,006$) - and had a phototype I or II. There was no otherwise significant difference between the "photosensitive AD" and "possible photosensitive AD" groups.
Conclusion: Many AD patients report being aggravated in the summer, but with no distinction between the responsibility of sun, perspiration or heat. Our questionnaire allowed us to distinguish patients with a potential photosensitivity, taking into account the declarative bias. Thus, these results are helpful to better identify AD patients who could benefit from photobiological explorations.

Keywords : Atopic dermatitis, photosensitivity, phototest

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