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To cite this version:

Emilie Brenaut, Ronan Garlantezec, Karen Talour, Laurent Misery. Itch characteristics in five dermatoses: non-atopic eczema, atopic dermatitis, urticaria, psoriasis and scabies.. Acta Dermato-Venereologica, 2013, 93 (5), pp.573-4. 10.2340/00015555-1599 . hal-00876418

HAL Id: hal-00876418

https://hal.science/hal-00876418v1

Submitted on 25 Oct 2013

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Acta Derm Venereol 2013; 93: 573–574

SHORT COMMUNICATION

Itch Characteristics in Five Dermatoses: Non-atopic Eczema, Atopic Dermatitis, Urticaria, Psoriasis and Scabies

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Accepted Jan 24, 2013; Epub ahead of print May 27, 2013

Itch is a frequent symptom in many diseases. Some studies have used questionnaires to evaluate pruritus by targeting a single type of dermatitis, for example, studying atopic dermatitis (AD) with the "Eppendorf Itch Questionnaire"(1, 2), and uraemic pruritus (3). Questionnaires have also been used to study psoriasis (4) and urticaria (5). The pathophysiological mechanisms of itch, especially with regard to the mediators and transmitters involved, can vary according to the itch-inducing disease. It is possible that itching sensations may be experienced differently by each patient and depending on the underlying disease. O'Neill et al. (6) and Reich et al. (7) have shown that itching sensations can vary between various skin diseases.

The present study used an exploratory approach to highlight the qualitative (symptomatological) features of pruritus in different dermatoses, using a non-validated questionnaire in French, adapted from previous questionnaires (1, 2).

PATIENTS AND METHODS

The questionnaire comprised 6 sections: chronology; effects of treatment; characteristics of the pruritus and associated symptoms; intensity; disruption of daily activities; and characteristics of scratching. French patients presenting with acute or chronic pruritus in our dermatology department between January 2010 and April 2011, were included in the study. They were inpatients or outpatients from an academic department of dermatology. Patients < 18 years old and those who were unable to complete the questionnaire because of cognitive or physically impairment were excluded from the study. A full dermatological examination was conducted in order to establish the underlying aetiology. All analyses were performed using SAS 9.2 software. For diseases affecting 15 patients or more, a univariate analysis was performed with Spearman's correlation coefficient and Fischer or χ^2 tests when applicable. Significant results refer to comparisons of a single disease against all others pooled. Statistical significance was set at $p < 0.05$.

RESULTS AND DISCUSSION

The questionnaire, known as the "Brest questionnaire" was administered to 150 patients with various skin diseases. The most frequent diseases were: non-atopic eczema ($n = 41$), psoriasis ($n = 19$), scabies ($n = 19$), AD ($n = 16$) and urticaria ($n = 16$). For statistical reasons, only the data concerning 5 diseases could be compared.

The most common symptoms accompanying itching were heat sensations and pain (Fig. 1A). In AD, sweating ($p < 0.05$), headache ($p < 0.05$) and pain ($p < 0.005$) were more frequent than in other diseases. Heat sensation was significantly more frequent in urticaria ($p < 0.05$) and less frequent in scabies ($p < 0.005$) than in other diseases. The other frequent symptoms were burning and stinging (Fig. 1B). In AD, stinging ($p < 0.05$), pinching ($p < 0.05$) and stabbing ($p < 0.05$) were significantly more frequent than in other diseases.

There were also differences in associated modulating factors. Sweating increased the severity of itching in 80% of patients with AD, 73% with scabies, 62% with non-atopic eczema, 58% with psoriasis, and only 30% of those with urticaria. Physical effort had variable effects. It increased the severity of itching in 71% of patients with AD ($p = 0.001$), whereas it alleviated itching in 45% of patients with psoriasis ($p < 0.01$). Cold water was an alleviating factor for most patients in all groups. Hot

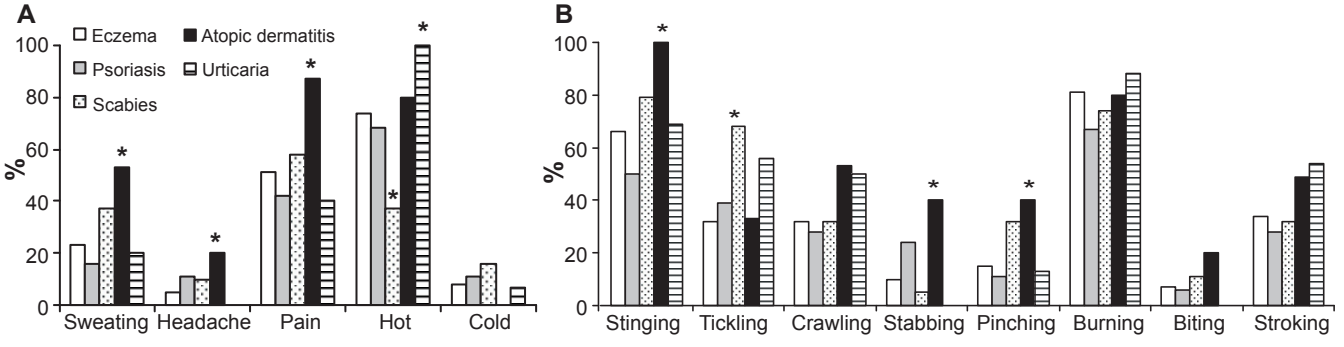

Fig. 1. Frequency of (A) associated symptoms and (B) other symptoms. *Significant ($p < 0.05$) compared with 4 other dermatoses.

© 2013 The Authors. doi: 10.2340/00015555-1599
Journal Compilation © 2013 Acta Dermato-Venereologica. ISSN 0001-5555

water increased the severity of itching in the majority of groups (50% of patients with AD and up to 67% of patients with scabies), except psoriasis, for which a significant 47% of patients considered hot water to be an alleviating factor ($p < 0.05$). Skin dryness exacerbated itching in all groups, particularly in psoriasis (94% of patients) and AD (93%). Dryness also exacerbated itching in 64% of patients with non-atopic eczema and 69% of patients with scabies. Stress aggravated itch in all dermatoses (from 63% of patients with eczema to 86% of patients with psoriasis).

Scratching was considered pleasurable for most patients with AD (69%), non-atopic eczema (76%) and psoriasis (65%), whereas it was pleasurable for only 46% of patients with urticaria and 47% of patients with scabies. Scratching lesions were significantly more frequent in AD (63% of patients, $p < 0.05$) and scabies (63% of patients, $p < 0.01$) in comparison with eczema, psoriasis and urticaria. Scratching lesions were rare in urticaria, occurring in only one patient. Among these scratching lesions, lichenification was more frequent in AD (80%) compared with other diseases (non-atopic eczema 61%, psoriasis 33%, scabies 8%). Excoriations were often numerous and deep in AD. Linear excoriations were frequent in psoriasis, more so than in other groups.

The present study reveals similarities in the characteristics of itching among the 5 diseases: more frequent at night, with similar aggravating factors (stress, skin dryness, hot water) and alleviating factors (cold water). However, these results may be limited by the number of included patients and the groups' heterogeneity; differences were also numerous among these 5 skin diseases. To our knowledge, there were only 2 previous studies that compared itch characteristics between dermatoses: psoriasis vs. AD (6) and psoriasis vs. lichen planus (7). Their results also indicate that the perception of pruritus can vary greatly between various skin diseases.

Semiological analysis of pruritus could be very useful to better understand patients' experience, to better discriminate differences among diseases, to understand their pathophysiological differences, and to assess more finely the effects of drugs on pruritus.

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