SHORT COMMUNICATION

Agreement Between Self-reported and Dermatologists' Diagnosis for Alopecia Areata and Atopic Dermatitis: A Bi-centric Prospective Study

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E-epidemiology is a cost-effective method for collecting and monitoring data on chronic skin diseases, which usually rely on self-declared diagnosis made by the patients (1). However, the quality of the self-declared diagnosis can be subject to false positive or negative declaration and one method to lower this risk is to validate patients' self-assessment. In this context, we conducted a study, aiming to validate the self-assessment of atopic dermatitis (AD) and alopecia areata (AA), using the standard for diagnosis of these skin diseases, i.e. physical examination by a board-certified dermatologist.

METHODS

Methodology for the validation of the self-declared skin diseases has been published elsewhere (2). In brief, two 6-items self-reported questionnaires, AA and AD were developed by a panel of experts in dermatology. These questionnaires (available upon request) were based on the model, created by Dominguez et al. (3), with 2 sections: (1) a declarative section (Questions [Q] 1–4) that helps to identify whether the patient thinks he has the disease of interest, and who diagnosed it (general practitioner, dermatologist, other specialist physician, the patient; these items were not exclusive); and (2) a section (Q 5 and 6) offering a photographic panel of the disease of interest and/or questions regarding the features of the disease in its most common phenotypes. The Ile-de-France IV (Paris, France) ethics committee (IRB), number 2016/41NI approved the study. Age and sex were recorded for all questionnaires. The study was carried out from February 15th 2016 to March 15th 2016. Questionnaires (see Appendix S1[1]) were distributed to all consecutive outpatients, aged 18 years and over, who were attending a consultation in 2 departments of Dermatology, located at the University Hospital Centers of Creteil and Marseille, for the first time. The dermatologist completed the final part, which attests the presence or absence of one of the 2 diagnoses, regardless of the patient's answers. For patients with no visible lesions, physicians asked about medical history and previous medications used. Metrological characteristics (sensitivity, specificity, area under the curve) were calculated for all logical algorithms. The goal of the analyses was to identify the algorithms with the highest sensitivity for distinguishing AA or AD from non-AA or non-AD.

RESULTS

Overall, 381 patients participated, with a median age of 46 years (age range 17–89 years), 207 women (54.4%) and 174 men (45.6%) were included. Thirty-five participants (24 women and 11 men) were diagnosed with AA and 53 with AD (32 women, median age 28, range 15–74 years) by a dermatologist. For both diseases, the algorithm: "I have the disease and it was diagnosed by a dermatologist" had excellent sensitivity (Se) and specificity (Sp): Se 80.0% and Sp 98.7%, receiver operating characteristic (ROC) curve 0.90 (0.83–0.97) for AA; Se=94.34 and Sp=92.1, ROC curve 0.93 (0.9;0.97) for AD. "I have AA and it was diagnosed by a non-dermatologist physician" had surprisingly good sensitivity (Se) and specificity (Sp) as well (Se 76.2% and Sp 90.7%) and receiver operating characteristic (ROC) curve 0.92 (0.85–0.97), this was not the case for the item "I have AA and it was diagnosed by a non-dermatologist physician" for which we found a lower sensitivity (Se 56.2 % and Sp 88.6%, ROC curve 0.77 (0.73–0.86)).

DISCUSSION

This multicentric study involved a large number of patients and was based on the confirmation of skin disease diagnosis by a dermatologist, which can be considered a strength. We also systematically enrolled patients, attending dermatology units, which ensured diversity in the disease severity. It allows to conclude that patients who self-report AD and AA are reporting their disease accurately. The results are consistent with the already published studies, as it was recently reported that using such methodology has a high sensitivity and specificity for the diagnosis of psoriasis, hidradenitis and vitiligo (2).

It should be noted that two different dermatologists confirmed the diagnosis in these two studies, as the dermatologist who examined the patient during the consultation differed from the dermatologist who made the initial diagnosis. There are also a few limitations to our study. As the study was transversal and was based on short questionnaires and limited photographs, it is probable that atypical phenotypes were not taken into account. Another limitation is that people who attend university hospital centres may have a better knowledge of their disease. However, these auto-questionnaires are intended for the use in e-cohorts in which partici-

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pants are usually more concerned about their health. This study highlights that patients who report having AD or AA, diagnosed by a physician, especially a dermatologist, report their diagnosis accurately. Thus simple declarative items such as "Do you have the disease and was it diagnosed by a dermatologist or a non-dermatologist physician?" are sufficient to allow correct diagnosis, at least for AA. For AD, diagnosis by a non-dermatologist physician was found to be less sensitive, probably due to the differential diagnosis of contact eczema, which makes the diagnosis more difficult and should be confirmed by a dermatologist in order to allow a correct diagnosis. Such algorithms will be of use in selecting a population of interest from self-administrative cohorts.

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The authors have no conflicts of interest to declare.

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