Adult patients with alopecia areata report a significantly better medication adherence compared to those with atopic dermatitis – results from a large cross-sectional cohort study

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Background

Chronic skin disorders are among leading causes of nonfatal disease burden worldwide, and account for significant proportion of total healthcare utilization. The optimal therapeutic management of chronic skin disorders depends critically on medication adherence (MA). Poor MA among chronic diseases is a complex and critical challenge in today's healthcare system. While poor MA poses a significant financial burden, it may furthermore have consequences on the care management of patients, with unnecessary switch of treatments and dose escalations. In managing patient care, it is important to understand how different chronic skin conditions affect MA. Alopecia areata (AA) and atopic dermatitis (AD) are common immune-mediated skin diseases which affect nearly 2% and 10% of the general population at some point in their lifetime, respectively. AA is characterized by nonscarring hair loss with preservation of affected hair follicles, whereas AD is characterized by intense itch, inflamed lesions caused by the underlying inflammation and impairment of the skin barrier.

Objectives

The aim of the current study was to assess the impact of adult AA vs AD on MA. Also, we aimed to identify demographic and disease characteristics that may play a role in MA among adults with AA.

Methods

Data Sources and Study Populations

The Danish Skin Cohort (DSC) served as the data source for the two patient cohorts included in this study. The data collection method and the initial characterization of the patient populations are previously described in detail. Briefly, the DSC was established in 2018 as a prospective inception cohort of dermatological patients in Denmark and follow-up data were collected and added in 2020, 2022, and at least once a year hereafter. 100 Patients with at least one diagnostic code for AA verified by a dermatologist after their 18th birthday were identified as the primary study population.

Data Sources and Study Populations

Patients with AD (at least one dermatologist-verified diagnostic code for AD after their 18th 102 birthday) served as the control group. All identified patients answered the survey electronically. Study data were collected and managed using REDCap (Research Electronic Data Capture).

Outcome Measure

As the primary outcome measure, we used the Medication Adherence Report Scale (MARS-5), a validated measure for medication adherence. Here the patients were asked how often they do five different behaviors towards their treatment utilization, e.g., "I take less than instructed" and have the answers: "Very often", "Often", "Sometimes", "Rarely", and "Never"). The answers "Rarely" and "Never" were seen as high adherence.

Covariates

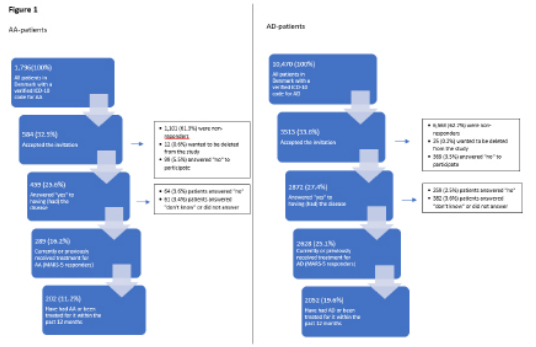
We collected information regarding participants' age, gender, height, weight, ethnicity, Fitzpatrick skin type and natural hair color. Additionally, we asked participants to answer questions regarding levels of physical activity and a rating of general health on a scale from 0 to 10 where 0 is worst possible health and 100 is best possible health. Furthermore, disease specific data regarding onset of disease, disease activity and severity, prescribed treatment and Dermatology Life Quality Index (DLQI), were collected.

Statistical analysis

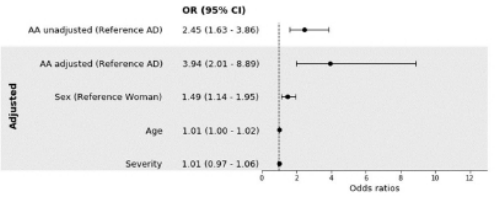
The AD and AA patient populations were characterized using descriptive statistics including mean, standard deviation (SD), median, and interquartile ranges (IQR), according to data distribution. Frequencies were calculated for categorical variables including percentages of the primary endpoints. Odds ratios (ORs) for the primary outcome were estimated using logistic regression models. The selected covariates in the adjusted models were gender, age and disease severity. Disease severity was defined as current severity rated on a numeric rating scale (NRS) from 0 to 10 where 10 was "worst possible AA". Predictors for MA were further estimated in multiple regression models.

Results

In total, 3331 adult patients (≥18 years) with confirmed skin diagnosis were identified from DSC with either a diagnosis of AA (N=459) or AD (N=2872). The patient selection process is visualized in the flowchart in Figure 1.



As expected, most adults with AD had an onset of their disease at a younger age (84.4% with an onset 18 years old) with a median (IQR) age of 55 (46-65) years. Therefore, patients with AD reported longer disease duration. A higher percentage of patients with AD reported receiving current treatment (62.5%) or previously received treatment (29.0%) for their skin disease compared with AA (9.4% and 12 152 53.6%). Patients with AA reported a higher ongoing severity of their disease activity (Medical NRS=8 for AA 153 vs NRS=3 for AD). On the other hand, patients with AD reported more flare ups within the past 12 months compared to AA patients who reported having a more stable disease. The MA results are shown in Figure 2.



In total, 63% (289/459) adults with AA, and 91% (2628/2872) adults with AD completed the MARS-5 questionnaire. Overall, patients with AA reported significantly higher MA than those with AD (Mean (SD) MARS-5 score 21.8 (4.6) vs 18.3 (4.6)). The comparison analysis between AA and AD showed a statistically significant difference and a higher level of MA among adults with AA. The adjusted OR showed almost 4 times higher MA among adults with AA compared to those with AD (OR=3.94, 95% CI 2.01-8.89, pp<0.005).

Conclusion

In this cross-sectional survey, we observed that patients with AA have a higher MA than patients with AD, possibly reflecting an unrecognized burden of disease or unmet medical needs in AA patients. Individual patient characteristics should be incorporated in clinical decision making and assessment of therapeutic goals.

References

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