

Atopic Dermatitis and Cardiometabolic Disease – Epidemiological Studies

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Yuki Maria Fukuda Andersen defended her thesis on June 19, 2018 in Department of Dermatology and Allergy, Herlev and Gentofte Hospital, Hellerup, Denmark. Supervisor: Jacob Pontoppidan Thyssen, MD, PhD, DMSc., Chairman: Tove Agner, Prof, MD, PhD, Department of Dermatology, Bispebjerg and Fredriksberg Hospital, Copenhagen. Assessors: Mette Deleuran, Assoc Prof, MD, DMSc, Department of Dermatology, Aarhus University Hospital, Aarhus, Denmark, and Sinéad Langan, Assoc Prof, MD, PhD, Faculty of Epidemiology and Population Health, London School of Hygiene and Tropical Medicine, London, UK.

Atopic dermatitis (AD) is a common inflammatory skin condition in children and adults. In recent years it has been suggested that adult patients with AD have increased risk of comorbidities, including cardiometabolic diseases, similar to what has been observed in patients with psoriasis. The association is, however, not yet established and it is unclear whether intrinsic or extrinsic factors are the main contributors for a possible association.

By using survey data from the general population, we aimed to investigate the prevalence of cardiometabolic risk factors in adults with a history of AD. We further analysed cross-linked nationwide registry data to assess the risk of major cardiovascular events and type 2 diabetes in adults with hospital-diagnosed AD in Denmark. Lastly, we examined the risk of type 2 diabetes associated with the use of topical corticosteroids in the general population.

Due to the lack of a gold standard in questionnaire-based diagnostic criteria for AD in adults, we applied 3 different diagnostic criteria to identify adults with a history of AD. The captured AD populations were, however, heterogeneous and conclusions regarding cardiometabolic risk factors could not be made. Patients with severe AD identified through healthcare registries had an increased risk of ischemic stroke and cardiovascular death compared with the general population, however likely explained by traditional cardiovascular risk factors. Patients with mild AD had a slightly decreased risk of major cardiovascular events in fully adjusted analyses. Patients with AD also had a decreased risk of type 2 diabetes, and topical corticosteroid use was one of the significant predictors for type 2 diabetes. Finally, topical corticosteroid use was significantly associated with type 2 diabetes based on analyses of Danish and UK registry data.

In conclusion, taking the results from this thesis and other publications into account, there is currently no evidence to



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suggest that AD is an independent and clinically relevant risk factor for cardiometabolic diseases. As in the general population, prevention of traditional cardiometabolic risk factors, such as smoking is recommended in patients with AD. Furthermore, future efforts focused to describe cardiometabolic risk factors in adults with AD are needed. Lastly, awareness of systemic adverse effects of long-term excessive topical corticosteroid use, including type 2 diabetes is warranted, and future exposure studies are needed to further elucidate this relationship.