PRESS RELEASE

Inflammatory diseases influence the course of hair loss

Bonn researchers identify risk factors for a poor prognosis in alopecia areata

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Bonn, January 09 - Asthma, atopic dermatitis or Hashimoto's thyroiditis as concomitant diseases are risk factors for clinical features associated with a poor prognosis in circular hair loss, also known as alopecia areata (AA). In patients with three atopic diseases, namely atopic dermatitis, asthma and rhinitis, the average age of onset of AA is about ten years earlier than in patients without chronic inflammatory comorbidities. This has now been established by researchers from the University Hospital Bonn (UKB) and the University of Bonn in a large cohort study of affected patients. Their results have now been published in the journal "Allergy".

Alopecia areata (AA) is a common autoimmune disease that leads to sudden circular hair loss. The clinical course of AA is unpredictable and varies greatly from individual to individual. Numerous studies have shown that AA is often associated with comorbid, i.e. co-existing, chronic inflammatory diseases, which can have an impact on prognosis and clinical management. However, there is limited research on the impact of concomitant chronic inflammatory diseases on the clinical features of AA in an appropriately sized cohort. Through a cooperative network of dermatologists and AA support groups, human geneticists in Bonn have recruited a large group of approximately 3,000 affected individuals with genetic data and extensive clinical self-reporting over the past 20 years. Just over half of them also stated that they suffered from an additional chronic inflammatory disease. "This is one of the largest cohorts of AA worldwide and a unique data source for research into genetic and clinical aspects of AA," says Prof. Regina Betz from the Institute of Human Genetics at the UKB, who is a member of the Transdisciplinary Research Area (TRA) "Life & Health" and the Cluster of Excellence ImmunoSensation^2 at the University of Bonn

Last author Dr. Buket Basmanav from the Institute of Human Genetics adds: "To our knowledge, this is the most comprehensive analysis of the clinical features of AA in relation to concomitant chronic inflammatory diseases. We have simultaneously assessed multiple concomitant diseases and multiple clinical features of AA in a dataset that exceeds in size most cohort-based clinical data on AA patients previously reported in the literature." Basmanav is the leader of the Cure4HAIR project, which recently received GO-Bio start-up funding from the BMBF for the development of new therapeutics and personalized medicine for AA based on genetic research.

Connection between the clinical characteristics of AA and asthma discovered

The Bonn researchers found that comorbidity with a chronic inflammatory disease - in particular atopic dermatitis, bronchial asthma, Hashimoto's thyroiditis, rhinitis or vitiligo - was associated with the age of onset, severity and/or duration of AA. This is because AA patients with asthma, atopic dermatitis or Hashimoto's thyroiditis were significantly more likely to report early-onset, severe and long-lasting hair loss. "We found that comorbid bronchial asthma is a stronger risk factor for poor prognostic factors than comorbid atopic dermatitis or rhinitis," says first author Annika Friedrich, PhD student at the University of Bonn at UKB. "This is the first report of a significant association between comorbid asthma and the clinical features of AA in the literature."

The risk of early onset, severe and long-lasting AA gradually increased as the number of concomitant atopic diseases in AA patients increased. The mean age of onset of AA was about a decade earlier in patients suffering simultaneously from three atopic diseases, i.e. bronchial asthma, atopic dermatitis and rhinitis, than in patients without chronic inflammatory comorbidities. "We consider this to be indirect support for the hypothesis that atopic diseases can trigger the onset of alopecia areata in a subgroup of patients," says Dr. Basmanav. Prof. Regina C. Betz adds: "Based on our results, we assume that AA patients with comorbid chronic inflammatory diseases, in particular atopic dermatitis, bronchial asthma or Hashimoto's thyroiditis, could benefit from more frequent clinical monitoring and earlier therapeutic intervention."

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About Bonn University Hospital: The UKB treats around 500,000 patients per year, employs around 9,500 staff and has total assets of 1.8 billion euros. In addition to the 3,500 medical and dental students, 550 people are trained in numerous healthcare professions each year. The UKB is ranked first among university hospitals (UK) in NRW in the Focus Clinic List, had over 100 million third-party funds in research in 2023 and has the second highest case mix index (case severity) in Germany. The F.A.Z. Institute awarded the UKB first place among university hospitals in the category "Germany's Training Champions 2024".