Göteborg, 2022

Nutritional impact on health in patients with Rheumatoid Arthritis

Akademisk avhandling

Som för avläggande av medicine doktorsexamen vid Sahlgrenska akademin, Göteborgs universitet kommer att offentligen försvaras i sal 2118, hus 2, Hälsovetarbacken, Entré F, Arvid Wallgrens backe, den 2022-06-09, klockan 09:00.

av **Erik Hulander**

Fakultetsopponent:

Professor Tommy Cederholm

Uppsala universitet, Sverige

Avhandlingen baseras på följande delarbeten

I. **Hulander E**, Bärebring L, Turesson Wadell A, Gjertsson I, Calder PC, Winkvist A, Lindqvist HM. *Diet intervention improves cardiovascular profile in patients with rheumatoid arthritis: results from the randomized controlled cross-over trial ADIRA.* Nutr J. 2021.

II. **Hulander E**, Bärebring L, Turesson Wadell A, Gjertsson I, Calder PC, Winkvist A, Lindqvist HM. *Proposed Anti-Inflammatory Diet Reduces Inflammation in Compliant, Weight-Stable Patients with Rheumatoid Arthritis in a Randomized Controlled Crossover Trial.* J Nutr. 2021.

III. **Hulander E**, Lindqvist HM, Wadell AT, Gjertsson I, Winkvist A, Bärebring L. *Improvements in Body Composition after a Proposed Anti-Inflammatory Diet Are Modified by Employment Status in Weight-Stable Patients with Rheumatoid Arthritis, a Randomized Controlled Crossover Trial.* Nutrients. 2022.

IV. **Hulander E**, Lindqvist HM, Turesson Wadell A, Gjertsson I, Winkvist A, Bärebring L. *Associations between nutritional quality of habitual diet, concurrent health characteristics and response to a dietary intervention in patients with rheumatoid arthritis.* Manuscript.

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Nutritional impact on health in patients with Rheumatoid Arthritis

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Abstract

Objective: Rheumatoid Arthritis (RA) is the most common autoimmune rheumatic disease, affecting around 0.5-1% of the population. The aim of this thesis was to study dietary impact on markers of health in patients with RA.

Methods: Data from the randomized controlled crossover trial Anti-inflammatory diet in Rheumatoid Arthritis (ADIRA) is used. The trial compare a Mediterranean-like diet intervention with a typical western diet in patients with RA (n = 47). Additionally, cross-sectional analyses were done on data obtained at screening pooled from the ADIRA-trial and a postprandial meal challenge trial in patients with RA (n = 30).

Results: In the ADIRA-trial, apolipoprotein concentration was improved, high density bound cholesterol increased and triglycerides decreased in the intervention compared to the control. Proinflammatory chemokines decreased compared to control, as well as erythrocyte sedimentation rate in participants with high compliance and no major medication changes. Body composition improved over time during both the intervention and the control diet periods. Developments in nutritional quality differed between the intervention and control diet periods, indicating a successful implementation of the dietary regimens. There was no relation between habitual nutritional quality and health outcomes in a pooled cross-sectional analysis.

Conclusions: Comparing a Mediterranean-like diet to a typical western diet, dietary intake improved cardiovascular risk profile, and in a per protocol analysis, reduced inflammation. Further studies in more diverse populations are required to determine effects on long-term health outcomes.

Keywords: dietary intervention, rheumatoid arthritis, health

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