

Dietary composition of adult eosinophilic esophagitis patients is related to disease severity

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Abstract

Background: In addition to the elimination diet, dietary composition may influence disease severity in patients with Eosinophilic Esophagitis (EoE) through modulation of the immune response. Aim: To explore the immunomodulatory role of nutrition before and during elimination diet in adult EoE patients. Methods: Nutritional intake was assessed in 39 Dutch adult EoE patients participating in the Supplemental Elemental Trial (SET) using 3-day food diaries. In this randomized controlled trial, diagnosed patients received either a four-food elimination diet alone (FFED) or FFED with addition of an amino acid-based formula for six weeks. Multiple linear regression analyses were performed to assess associations between the intake of nutrients and food groups per 1000 kCal and peak eosinophil count/High Power Field (PEC), both at baseline and after six weeks. Results: At baseline, we found a statistically significant negative (thus favorable) relationship between the intake of protein, total fat, phosphorus, zinc, vitamin B12, folate and milk products and PEC ($p < 0.05$), while calcium ($p = 0.058$) and full fat cheese/curd ($p = 0.056$) were borderline (favorably) significant. In contrast, total carbohydrates, prepacked fruit juice and white bread were significantly positively related to PEC ($p < 0.05$) (unfavorable), while ultra-processed meals ($p = 0.059$) were borderline (unfavorably) significant. After dietary intervention, coffee/tea were significantly negatively (favorably) related to PEC, hummus/legumes were significantly positively (unfavorably) related with PEC, while peanuts were borderline significantly positively related ($p = 0.058$). Conclusion: Dietary composition may be related to inflammation in adult EoE patients. High quality and anti-inflammatory diets may be a promising adjuvant therapy in the dietary management of EoE.

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