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EFFICACY OF A DAIRY-FREE DIET IN ADULT PATIENTS WITH EOSINOPHILIC ESOPHAGITIS: A PILOT PROSPECTIVE MULTICENTER STUDY

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ABSTRACT

Background

Eosinophilic esophagitis (EoE) is a chronic, immune-mediated inflammatory disorder of the esophagus characterized by symptoms of esophageal dysfunction and histological eosinophilic infiltration. Dietary therapy represents one of the main treatment strategies, but most evidence derives from pediatric cohorts or highly restrictive elimination diets. Given that cow's milk protein is the most common food trigger, a dairy-free diet (DFD) may offer a simpler, more sustainable approach for adult patients.

Methods

In this prospective, multicenter study conducted across five Italian referral centers, 31 adults with histologically active EoE were enrolled from April 2023 to February 2025. Patients followed a 12-week DFD. Primary endpoints were clinical and histological remission. Clinical activity (EEsAI), disease severity (I-SEE), endoscopic findings (EREFS), quality of life (EoE-QoL-A), and adherence (VAS) were assessed at baseline and after the intervention. Predictors of remission and adherence were explored with regression models.

Results

Twenty-eight patients completed the 12-week protocol. Median age was 36 years (IQR 29–53), and 64.3% were male. After DFD, the prevalence of dysphagia decreased from 75.0% to 28.6% ($p = 0.0008$) and food impaction from 42.3% to 17.9% ($p = 0.008$). The I-SEE score improved from 6.5 to 4 ($p < 0.0001$) and the EEsAI from 35 to 18.5 ($p=0.009$). Histological remission was achieved in 53.6% of patients; among these, 86.7% also reached clinical remission. Quality of life improved (median EoE-QoL-A from 36.5 to 52, $p = 0.02$), and adherence was high (VAS 8 [IQR 7–9.5]). Predictors of lower histological response included previous

esophageal dilations and higher baseline exudate and eosinophil counts. Male sex and higher BMI predicted lower adherence.

Conclusions

A 12-week DFD induced histological remission in more than half of adult EoE patients and led to significant improvements in symptoms, disease severity, endoscopic findings, and quality of life, with high adherence and acceptable tolerability. DFD represents a practical and effective first-line dietary strategy for adult EoE, supporting the rationale for step-up dietary approaches and further randomized controlled validation.