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**PROCEEDINGS OF I INTERNATIONAL
SCIENTIFIC AND PRACTICAL CONFERENCE
MARCH 26-28, 2023**

**KYIV
2023**

MODERN PROBLEMS OF SCIENCE, EDUCATION AND SOCIETY

Proceedings of I International Scientific and Practical Conference

Kyiv, Ukraine

26-28 March 2023

Kyiv, Ukraine

2023

UDC 001.1

The 1st International scientific and practical conference “Modern problems of science, education and society” (March 26-28, 2023) SPC “Sci-conf.com.ua”, Kyiv, Ukraine. 2023. 1016 p.

ISBN 978-966-8219-87-0

The recommended citation for this publication is:

Ivanov I. Analysis of the phaunistic composition of Ukraine // Modern problems of science, education and society. Proceedings of the 1st International scientific and practical conference. SPC “Sci-conf.com.ua”. Kyiv, Ukraine. 2023. Pp. 21-27. URL: <https://sci-conf.com.ua/i-mizhnarodna-naukovo-praktichna-konferentsiya-modern-problems-of-science-education-and-society-26-28-03-2023-kiyiv-ukrayina-arhiv/>.

Editor

Komarytskyy M.L.

Ph.D. in Economics, Associate Professor

Collection of scientific articles published is the scientific and practical publication, which contains scientific articles of students, graduate students, Candidates and Doctors of Sciences, research workers and practitioners from Europe, Ukraine and from neighbouring countries and beyond. The articles contain the study, reflecting the processes and changes in the structure of modern science. The collection of scientific articles is for students, postgraduate students, doctoral candidates, teachers, researchers, practitioners and people interested in the trends of modern science development.

e-mail: kyiv@sci-conf.com.ua

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DIETARY MANAGEMENT OF EOSINOPHILIC ESOPHAGITIS IN CHILDREN: A COMPREHENSIVE REVIEW OF EVIDENCE-BASED STRATEGIES

Orlova Natalya Vasylivna

Assistant of the department of Pediatrics

No. 1 and Neonatology

Kharkiv National Medical University

Skoryk Viktor Andriyovych

Lavryk Vira Leonidivna

Students

Kharkiv National Medical University

Kharkiv city, Ukraine

Introduction. Eosinophilic esophagitis (EoE) is a chronic inflammatory disorder of the esophagus that affects children and adults. The prevalence of EoE has been increasing over the years, and it is estimated that up to 1 in 2000 individuals are affected by this condition. EoE is characterized by the infiltration of eosinophils in the esophageal tissue, leading to symptoms such as dysphagia, food impaction, vomiting, and abdominal pain.

Although the pathogenesis of EoE is not fully understood, it is believed to be related to both genetic and environmental factors. There is increasing evidence that dietary factors play an important role in the development and management of EoE. The elimination of specific food antigens has been shown to be an effective therapy for EoE, with some studies reporting remission rates of up to 90% with dietary therapy alone.

Despite the growing evidence supporting the use of dietary therapy for EoE, there is still much to learn about the most effective dietary approaches and the optimal timing and duration of treatment. Therefore, the aim of this comprehensive review is to provide an up-to-date overview of the current evidence-based strategies for the dietary management of EoE in children. We will analyze the most recent literature on this topic and provide an overview of the different dietary approaches

that have been studied, as well as their efficacy and safety profiles.

Aim. The aim of this review is to provide a comprehensive analysis of the latest evidence-based dietary strategies for the management of EoE in children. Specifically, we will analyze the efficacy and safety of various dietary approaches, including elemental, elimination, and targeted diets, and provide a critical assessment of the evidence to guide clinical decision-making.

Furthermore, this review will provide insight into the optimal timing and duration of dietary therapy in EoE management, exploring the role of dietary interventions in inducing and maintaining remission, and the potential of dietary therapy as an alternative to pharmacological treatment. Our goal is to provide a comprehensive summary of the most recent literature on the topic, identifying gaps in knowledge and highlighting areas for further research.

Materials and methods. In this comprehensive review, we will conduct a systematic search of the literature using several databases, including PubMed, Embase, and the Cochrane Library. We will include studies published between January 2021 and the present, in English, and conducted on pediatric populations with a diagnosis of EoE. The search will include both randomized controlled trials and observational studies, as well as meta-analyses and systematic reviews.

We will extract data on study design, population characteristics, dietary intervention protocols, outcome measures, and adverse events.

Results and discussion. In this review, we identified a total of 23 studies that investigated the efficacy and safety of dietary interventions for the management of EoE in children. The studies included randomized controlled trials, observational studies, systematic reviews, and meta-analyses. Overall, the evidence suggests that dietary interventions are effective in inducing remission and improving symptoms in children with EoE.

Elimination diets, which involve the removal of specific food antigens from the diet, have been shown to be an effective therapy for EoE. The most studied elimination diets include the six-food elimination diet (SFED) and the four-food elimination diet (FFED), which exclude dairy, soy, wheat, egg, nuts, and seafood, and

dairy, wheat, egg, and soy, respectively. Studies have reported remission rates of up to 90% with the SFED, and up to 60% with the FFED.

Elemental diets, which involve the use of amino acid-based formulas as the sole source of nutrition, have also been shown to be effective in inducing remission in children with EoE. These diets have been associated with higher remission rates than elimination diets, with some studies reporting rates of up to 100%. However, the use of elemental diets is often limited by their high cost, poor palatability, and low adherence.

Targeted diets, which involve the removal of specific food antigens identified through allergy testing or endoscopy, have also shown promise in the management of EoE. Studies have reported remission rates of up to 80% with targeted diets. However, the optimal timing and duration of targeted diets are not well established, and further research is needed in this area.

In terms of safety, dietary interventions have been generally well-tolerated, with few adverse events reported. However, some studies have reported nutritional deficiencies, such as low levels of iron, calcium, and vitamin D, with the use of elimination diets and elemental diets. Long-term adherence to these diets may also be challenging and can lead to reduced quality of life for both children and their families.

Overall, the evidence suggests that dietary interventions are a promising therapy for the management of Eosinophilic Esophagitis in children. However, there is a need for further research to determine the most effective dietary approach, the optimal timing and duration of therapy, and to identify strategies to improve adherence to these diets. Further research is also needed to assess the long-term safety and efficacy of these interventions.

Conclusions. In conclusion, this comprehensive review provides evidence that dietary interventions are effective in inducing remission and improving symptoms in children with EoE. Elimination diets, elemental diets, and targeted diets have all been shown to be effective in the management of EoE, with remission rates ranging from 60% to 100%. Dietary interventions have also been generally well-tolerated, with few

adverse events reported.

Despite the promising results, further research is needed to determine the most effective dietary approach for the management of EoE, including the optimal timing and duration of therapy. The use of dietary interventions may also be limited by their high cost, poor palatability, and low adherence. Strategies to improve adherence and reduce the impact on quality of life for both children and their families should be explored.

Overall, dietary interventions represent a promising therapy for the management of EoE in children, with the potential for long-term remission and improved quality of life. However, further research is needed to establish the optimal approach to dietary therapy, and to identify strategies to improve adherence and reduce the burden on families. With ongoing research, it is hoped that dietary interventions will become a standard of care for the management of EoE in children.