

CHANGES IN THE INCIDENCE OF AMYLOIDOSIS IN PATIENTS WITH RHEUMATOID ARTHRITIS DURING THE LAST 3 DECADES

Athulya Raj Konnottil Pandrayil

Scientific adviser: Victoria Sadovici-Bobeica

Internal Medicine and Semiology Discipline, *Nicolae Testemițanu* University

Background. For individuals with rheumatoid arthritis (RA), amyloidosis—a serious condition caused by abnormal protein deposits in tissues—has been a concern. However, advancements in RA treatment over the past 30 years, including biologics and improved DMARDs, may have reduced its prevalence in this population. **Objective.** The purpose of this study is to examine the patterns in the occurrence of amyloidosis in rheumatoid arthritis patients over the past 30 years and evaluate the impact of changing treatment approaches. **Material and methods.** The systematic analysis of the specialized literature published between 1994-2024 was carried out using PubMed search engine and Research Gate network. **Results.** Over the course of three decades, the study found a significant decrease in the incidence of amyloidosis among people with RA. Between the 1990s and the 2010s, the incidence rate dropped from 3.2 per 1,000 person-years to 1.1 per 1,000 person-years. The earlier, more

intensive treatment of RA and the rising usage of biologic DMARDs were highly connected with this reduction. Patients on biologic treatments had a 60% lower risk of developing amyloidosis than those on standard DMARDs alone, according to subgroup analysis. **Conclusion.** Over the past 30 years, there has been a notable decline in the prevalence of amyloidosis in people with rheumatoid arthritis. This decline has coincided with breakthroughs in the treatment of RA, most notably the advent and widespread use of biologic therapy. These results emphasize how crucial it is to treat RA aggressively and early in order to lower the likelihood of major side effects like amyloidosis. To maintain and expand on this encouraging trend, future research should concentrate on ongoing surveillance and therapeutic strategy optimization. **Keywords:** Abnormal protein deposits, disease-modifying antirheumatic drugs, incidence, biologics, DMARDs, amyloidosis, and rheumatoid arthritis.

THE ROLE OF THE GUT HEALTH IN THE ONSET AND PROGRESSION OF ALZHEIMER'S DISEASE

Abdu Rahiman Noora, Rodica Bugai

Scientific adviser: Rodica Bugai

Internal Medicine and Semiology Discipline, *Nicolae Testemițanu* University

Background. Alzheimer's disease (AD), a progressive neurodegenerative disorder, is characterized by cognitive decline and memory loss. Recent research has claimed a potential link between intestinal disorders and AD, suggesting that gut health may play a critical role in the onset and progression of AD. **Objective of the study.** Assessment of the potential links, mechanisms, and implications of gut disorders in the pathogenesis and progression of AD. **Material and methods.** The 26 scientific papers and textbooks from academic platforms as PubMed, Medline, Hinari, Google Scholar, Elsevier, Web of Science published in the last 10 years, were analyzed. **Results.** The findings suggest a significant association between gastrointestinal disorders and the development of AD. Chronic inflammation such as inflammatory bowel disease and irritable bowel syndrome, with elevated levels of pro-inflammatory cytokines and immune system dysregulation may contribute to AD. Gut disorders can impair nutrient absorption, leading to deficiencies in

essential vitamins and minerals that support cognitive function. Malnutrition and deficiencies in vitamins such as B12 and D have been associated with an increased risk of AD. Microbiome alterations can affect brain health through the production of neuroactive compounds and modulation of the immune system. Dysbiosis has been linked to increased amyloid-beta deposition and tau pathology, hallmark features of AD. Disruption of the gut-brain axis due to gut disorders can lead to neuroinflammation and neurodegeneration. **Conclusions.** Multiple studies have demonstrated the possible connection between gut conditions, which include inflammation, nutrient absorption, microbiome status, the involvement of the gut-brain axis in the development and progression of AD. A deeper understanding of these mechanisms could open up new possibilities in the prevention and more effective treatment of AD. **Keywords:** gut disorders, gut-brain axis, inflammation, microbiome