

El Murad T.A.

THE ROLE OF PREVOTELLA IN RHEUMATOID ARTHRITIS PATHOGENESIS

Tutor: PhD, associate professor Chepelev S.N.

*Department of Pathological Physiology
Belarusian State Medical University, Minsk*

Rheumatoid arthritis (RA) is a complex autoimmune disease affecting millions worldwide. It is characterized by chronic joint inflammation, leading to pain, disability, and systemic complications. The pathogenesis of RA involves a combination of genetic, environmental, and immunological factors. Identifying the key contributors to disease development and progression is crucial for improved patient outcomes.

In recent years, emerging evidence has implicated the gut microbiome in RA pathogenesis. Among the various microbial species, *Prevotella* has gained significant attention. Studies have shown alterations in the gut microbiota composition of RA patients, with a higher abundance of *Prevotella* species. These findings have sparked interest in investigating the potential role of *Prevotella* in driving immune dysregulation and joint inflammation.

Here we review the correlation between *Prevotella* and arthritis. It includes a thorough examination of relevant studies investigating the prevalence and abundance of *Prevotella* in RA patients compared to healthy controls.

A systematic literature search was conducted using established databases to identify relevant studies. Inclusion criteria encompasses clinical studies, cohort studies, case-control studies, and randomized controlled trials examining the association between *Prevotella* and arthritis. Data extraction and analysis was performed to identify significant findings, including *Prevotella* abundance, correlation with disease activity markers, and potential therapeutic implications.

This review is of paramount importance in the field of pathophysiology as it aims to explain the role of *Prevotella* in RA pathogenesis. Understanding the mechanisms by which *Prevotella* influences immune responses and joint inflammation can provide valuable insights into the underlying pathophysiological processes of RA. Furthermore, it may open up new avenues for targeted interventions, including personalized microbiome-based therapies, to modulate disease activity and improve patient outcomes.

In conclusion, this systematic review will contribute to the growing body of knowledge regarding the association between *Prevotella* and rheumatoid arthritis. By synthesizing and analyzing the existing evidence, this review aims to provide a comprehensive understanding of the role of *Prevotella* in RA pathogenesis. The findings have the potential to inform future research, clinical practice, and therapeutic strategies aimed at improving the lives of individuals living with this debilitating autoimmune disease.