**Keywords:** Chikungunya virus; Chronic chikungunya arthritis; Mesenchyme stem cells; Pathogenesis

## Introduction

Chikungunya virus (CHIKV) infection has gained global attention in recent years due to its ability to cause chronic arthritis [1]. While acute chikungunya infection is characterized by fever, rash, and joint pain, a signi cant proportion of patients develop persistent joint symptoms, leading to a condition known as chronic chikungunya arthritis. Interestingly, the pathogenesis of chronic chikungunya arthritis shares several features with rheumatoid arthritis (RA), a chronic autoimmune disorder a ecting the joints. is article aims to explore the shared features between these two conditions, shedding

and degradation of extracellular matrix components, resulting in progressive joint destruction [6].

### Ge e c ce b

Genetic factors play a role in both chronic chikungunya arthritis and RA. Several studies have identi ed speci c human leukocyte antigen (HLA) associations in patients with chronic chikungunya arthritis, suggesting a genetic predisposition to the development of persistent joint symptoms [7]. Similarly, HLA associations, such as the HLA-DRB1 shared epitope, are well-established risk factors for the development of RA. ese genetic susceptibilities contribute to the dysregulation of immune responses and the subsequent joint pathology observed in both conditions [8].

### A

Although the exact mechanisms underlying chronic chikungunya arthritis are still under investigation, there is increasing evidence suggesting an autoimmune component in its pathogenesis [9]. Autoantibodies, including RF and ACPAs, are frequently detected in patients with chronic chikungunya arthritis, reminiscent of the autoimmune nature of RA. is autoantibody production may result from molecular mimicry, where viral antigens share similarities with host antigens, triggering an immune response against self-structure [10].

### G c

Chronic chikungunya arthritis and rheumatoid arthritis share several common features in their pathogenesis, including immunological dysregulation, synovial in ammation, joint destruction, genetic susceptibility, and the presence of e pathogenesis of chronic chikungunya arthritis shares several common features with rheumatoid arthritis (RA), highlighting the complexity of these chronic joint disorders. Immunological dysregulation, synovial in ammation, joint destruction, genetic susceptibility, and the presence of autoantibodies are among the shared features that contribute to the development and progression of both conditions. e understanding of these shared features provides valuable insights into the underlying mechanisms driving chronic chikungunya arthritis and RA. It underscores the importance of immune dysregulation and the role of pro-in ammatory cytokines and autoantibodies in perpetuating joint in ammation and damage. e similarities in synovial in ammation and joint destruction highlight the common pathways involved in the breakdown of joint integrity.

Genetic susceptibility plays a crucial role in both chronic chikungunya arthritis and RA, emphasizing the in uence of genetic factors on immune dysregulation and joint pathology. ese genetic associations provide a potential avenue for identifying individuals at risk and developing personalized treatment approaches. e presence of autoantibodies in chronic chikungunya arthritis suggests an autoimmune component, mirroring the autoimmune nature of RA. e phenomenon of molecular mimicry may contribute to the production of autoantibodies and the development of self-directed immune responses, leading to joint in ammation and damage.

e identi cation of shared features between chronic chikungunya arthritis and RA paves the way for potential therapeutic interventions. Targeting common pathways involved in immune dysregulation, synovial in ammation, and joint destruction may o er new avenues for treatment strategies aimed at reducing in ammation and preventing joint damage in both conditions. Further research is needed to elucidate the speci c mechanisms underlying the shared features and to explore additional factors contributing to the pathogenesis of chronic chikungunya arthritis and RA. is knowledge will not only enhance our understanding of these complex diseases but also inform the development of innovative therapeutic approaches that can alleviate symptoms, improve outcomes, and enhance the quality of life for individuals a ected by chronic chikungunya arthritis and RA.

### References

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