



## Arthritis after SARS-CoV-2 infection: reactive arthritis or virally mediated arthritis?

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Dear Sir,

We read with interest an elegant overview of post-COVID-19 reactive arthritis (ReA) by Slouma et al. [1]. The index article reiterates and refers to the key points presented in another analysis of the changing landscape of ReA with uncertain status of HLA-B27, variable temporal associations with infections, and successful anti-inflammatory therapies [2]. We are well familiar with and alerted to the issue of inflammatory arthritis frequently described in case studies of post-COVID-19 and related vaccinations [3].

Indeed, arthritis coincided and associated with SARS-CoV-2 infection is a big issue due to the increasing number of related reports [1, 2]. The main question arises as to whether the current classification criteria of ReA are applicable to post-COVID-19 arthritis. It is also debatable whether self-limited arthritis associated with SARS-CoV-2 to categorize as ReA or virally mediated arthritis. We hypothesize that virally mediated arthritis is a more plausible entity that needs to be investigated in patients with synovial fluids positive for SARS-CoV-2. Our hypothesis also stems from previous concerns of the correctness of diagnosing post-COVID-19 ReA [4].

The issue is complicated due to the absence of comprehensive practice guidelines of global associations with points on temporal associations between ReA and other peripheral spondyloarthritides. ReA is widely viewed as a form spondyloarthritis with pre-existent triggering infections. It often manifests as mono- or oligoarthritis secondary to intestinal and urogenital bacterial infections. Previously proposed, somehow outdated ReA criteria (1999) are still in

use by clinicians worldwide [5, 6]. The outdated criteria lag behind the advances in ultrasound visualization and investigation of synovial fluid in ReA. Apparently, the outdated criteria may also come in conflict with a wide variety of ReA cases accumulated in developing countries. The absence of clear-cut definitions confuses researchers, clinicians, and patients. Over the past decade, evidence has accumulated that points to the importance of arthritogenic viruses causing outbreaks of diseases with inflammatory arthritides [7]. Amid the pandemic, the term “COVID-19-related arthritis” has emerged, rightly pointing to the existence of new viral arthritis [4]. In addition, as all previously reported viral arthritides [8], the course of the new arthritis may benefit from specific antiviral therapies.

The ongoing pandemic has also revealed clinical differences between classic ReA and virally mediated arthritis with axial involvement being more characteristic for the former and polyarticular pattern for the latter. Although there is limited data, one may consider virally mediated arthritis as a self-limiting condition which is distinct from spondyloarthritis and well responsive to anti-inflammatory drugs, except for specific disease-modifying agents.

Since the pandemic is still raging for most countries, and in view of the crystallized symptom complexes, there is an urgent need to develop globally acceptable definitions and criteria for ReA and post-COVID-19 arthritis. The discussion of such definitions and criteria can be initiated by contributors and readers of this Journal, a reputable source in its subject area. It is also envisaged that forming working groups of experts under the auspices of global associations will pave the way for new definitions, structured keywords, and standardized diagnosis and management of ReA and virally mediated arthritis.

The manuscript is in compliance with ethical standard. This is the letter to the editor.

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