Repurposing NSAIDs, Diacerein, Omega 3 Fatty Acids and Pentoxifylline for COVID-19 Relapse and Post/Para COVID Syndrome: A Real-life Experience

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Abstract

In this short communication, we illustrate the pharmacological basis upon which we have safely and effectively repurposed NSAIDs, diacerein, omega 3 fatty acids and pentoxifylline in the clinical management of COVID-19 relapse and Post/Para COVID syndrome that lacks a solid current pharmacotherapy, and we encourage other clinicians/researchers to discuss and build upon our work.

Key words:

Post COVID, Para COVID, NSAIDs, Diacerein, Omega 3 fatty acids, Pentoxifylline.

As if COVID-19 was not enough mystery for the current medical practice to encounter the more mysterious long haulers; post/para COVID syndrome. First, the persistence of troublesome symptoms, affecting different body systems, for more than three weeks after the diagnosis of COVID-19 was suggested to be named Post COVID syndrome with an incidence of 10 – 35% for non-hospitalized patients and up to 85% for the hospitalized ones[1]. Persistent pathological inflammation and multi-organ long term damage were described as consistent features of Post COVID in 50-66% of patients, including non-hospitalized children and younger adults regardless of the initial severity of the disease[2]. However, we recommend to differentiate between COVID relapse and post COVID and the onset might help us as a study has suggested that 50% of COVID-19 patients might experience persistent symptoms for 10-14 weeks after disease onset[3] and another one suggested that relapse might be considered as a the proper term if symptoms reappear in the first eight weeks after COVID-19 onset[4]. Taken together, we adopted persistent symptoms for 10 weeks after the initial diagnosis to be considered as Post COVID which is an evolving subject with obscure pathogenesis, and like COVID-19 there is no current approved effective pharmacotherapy[2]. Moreover, we have recommended that Para COVID syndrome might present a more precise terminology and we will adopt it in this manuscript[5].

Relying on our academic expertise and our real-life daily COVID-19 clinical practice, we assumed that COVID-19 non-targeted treatment might be revealed as the main cause of Para COVID syndrome[6] and that it might possess a component of persistent chronic inflammatory condition. Importantly, intake of oral, parenteral and/or inhalational, corticosteroids as well as favipiravir to manage mild-moderate COVID-19 was reported by most of our managed relapsed and Para COVID patients and one Para COVID patient has also reported linezolid intake, in addition to oral and parenteral corticosteroids, though no blood culture was performed and her clinical condition did not warrant its prescription, as we judge, which might have added to the immunosuppressive effects of corticosteroids[7].

We would like to report that we have repurposed diacerein 50 mg/day; a well-known symptomatic slow-acting anti-inflammatory and immunomodulatory drug used in osteoarthritis[8], and omega 3 fatty acids in fish oil 1000 mg/day[9] with or without NSAIDs[10],

to safely mange relapsed and Para COVID patients who attended to our clinic mostly complaining of persistent mild-moderate symptoms including some or all of the following: dry cough, marked fatigue, chest pain, bone ache, headache, significant exercise intolerance, postural orthostatic tachycardia syndrome, memory troubles, sexual dysfunction, mood instability and other clinical manifestations that were not present before COVID-19. Besides the described repurposed drugs, we also highly recommended non-pharmacological interventions like gradual physical exercise, healthy balanced diet, mental rest, and psychotherapy sessions especially for those suffering from psychological manifestations. Interestingly, our patients reported marked improvement starting from the first week of therapy and afterwards while observing that the earlier the intervention, the shorter the duration of therapy.

Notably, one patient who complained for almost 6 months after she was first diagnosed with COVID-19 has consulted us after her symptoms exacerbated after receiving the first dose of ChAdOx1 nCOV-19 vaccine had to received diacerein, omega 3 fatty acids and lornoxicam 8 mg once or twice daily for three weeks during which gradual improvement was reported and we also advised her not to receive the other jab. We have also encountered a male patient who has suffered from abrupt episodes of moderate hypertension associated with severe headache only after receiving two doses of ChAdOx1 nCOV-19 vaccine and we have prescribed nebivolol 2.5 mg to manage control these episodes. Another patient who complained of postural orthostatic tachycardia syndrome has gradually and spontaneously recovered after cessation of previously administered oral and parenteral corticosteroids.

We would like to suggest that diacerein and omega 3 fatty acids possess the same potential properties[8,9] that we have built upon our COVID-19 management protocol[10] and we might consider either of them for our COVID-19 patients who might not tolerate NSAIDs due to peptic ulcers when the risk benefit ratio is favorable. Furthermore, we recommend that pentoxifylline should be also considered as another safe alternative for management of Para COVID[11] and we have used it as an adjuvant treatment while managing selected cases of COVID-19[12] and currently we are also using it in selected Para COVID cases, elderly hypertensive ones, to augment their recovery.

However, we admit that we have managed relatively small number of Para COVID patients as our clinical practice mainly focus on COVID-19 and only cases treated by other physicians have asked our consultation after suffering Para COVID, yet we suggest that all our repurposed drugs have a solid scientific basis to be tried and a remarkable safety profile when used professionally and we suggest that they showed preliminary very promising results and thus we encourage other researchers to discuss and build on our promising clinical observations wishing to find a much-needed therapy for this syndrome that still lacks effective pharmacotherapy.

Author Statement

As sole author, I am responsible for all content

Declaration of Competing Interest

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