

Management of Chronic Pain associated with Small Fiber Neuropathy Secondary to SARS-CoV-2

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INTRODUCTION

65 million people worldwide have been identified as having long COVID symptoms. "Long COVID-19" is a term commonly used to describe the myriad of symptoms patients continue to experience following an acute COVID-19 infection. Neuropathic pain is one of these 200 long COVID symptoms. It has been suggested that more than one in three patients with long COVID will develop neuropathic pain. Recent post-COVID-19 chronic pain studies have identified an association of acute SARS-COV-2 infection and resultant small fiber neuropathy (SFN). SFN is a peripheral neuropathy that commonly presents with chronic, diffuse, and often burning pain. Case studies have shown patients, who have recovered from COVID-19, presenting with sensory and/or autonomic dysfunction indicative of SFN.

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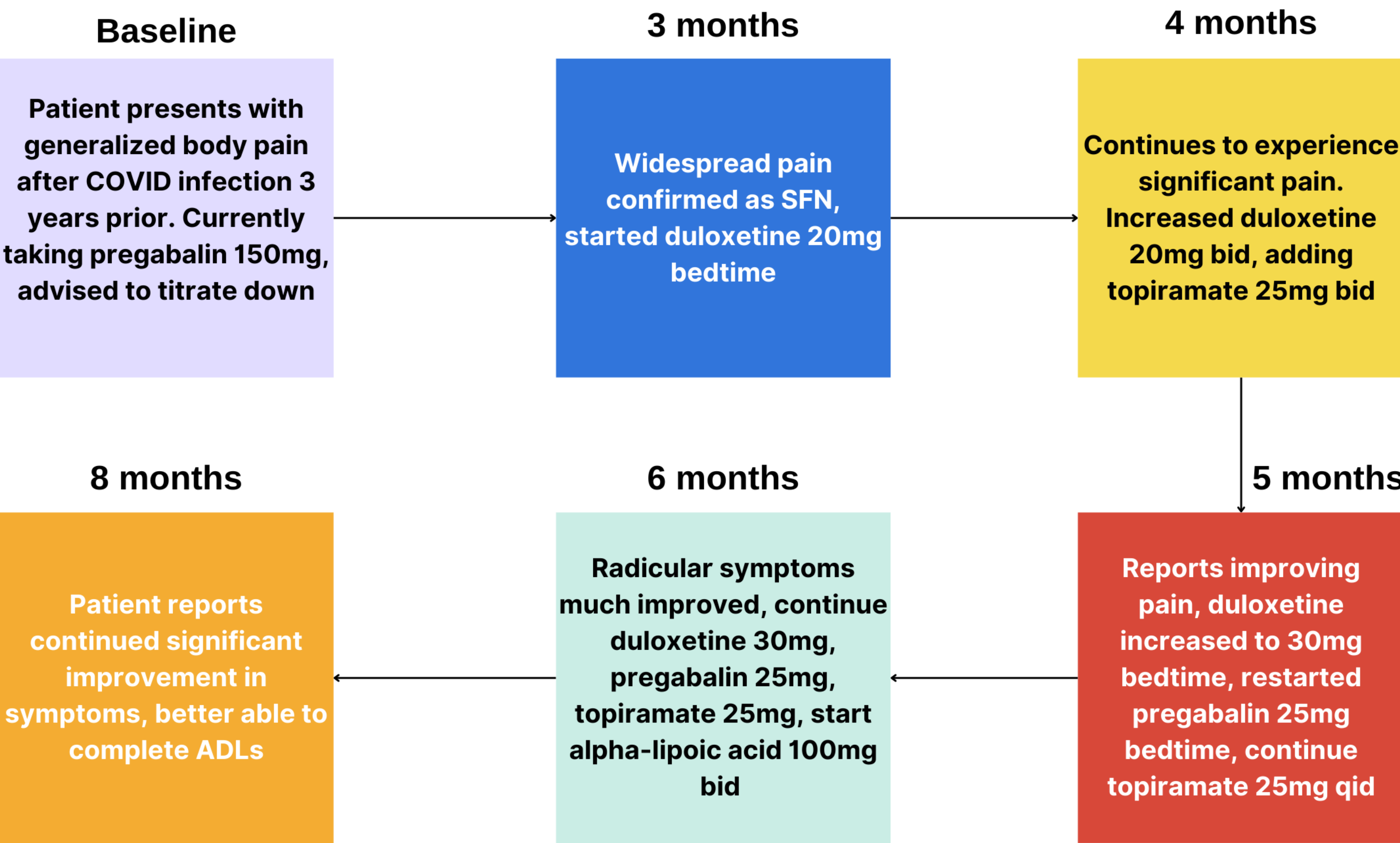
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CASE DESCRIPTION

A 51-year-old female developed small fiber neuropathy after COVID-19 infection and vaccination four years prior. As a result, her previous myofascial and chronic pain and cervical radiculopathy worsened. Further skin biopsies confirmed loss of cutaneous nerve innervation consistent with SFN. Initial management, including conservative trials of NSAIDs and physical therapy, proved unsuccessful. She has since been managed on pregabalin, duloxetine, topiramate, and alpha-lipoic acid along with regular exercise and weight loss. Previously significant widespread pain has improved on this current treatment regimen.

TIMELINE



CONCLUSION

Currently, there is no widely accepted proposed mechanism for the development of SFN often seen post COVID-19 infection and/or vaccination. However, a post- infectious autoimmune neuropathy, limited to small fibers, seems most plausible. Current post-COVID-19 SFN treatments include firstly treating the underlying etiology of the disease. For symptoms that remain refractory, anticonvulsants such as gabapentin, have been shown to have some efficacy in treatment. Other symptomatic medications include tricyclic antidepressants and serotonin-norepinephrine reuptake inhibitors. There has been some evidence to support the use of topical lidocaine, opioids, and corticosteroids as well. This particular case magnifies an instance of previous neurological disease progressing into SFN after COVID-19 infection due to a potential autoimmune nature. The patient required multiple, complex treatment regimens to achieve refractory pain relief for the patient. This specific instance may guide future treatment options and allow for a systematic approach in dealing with chronic pain for post-COVID SFN patients.

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