



Severe myalgias in Long COVID successfully treated with Low Dose Naltrexone

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Introduction

Post-acute sequelae SARS-CoV-2 infection (PASC), also known as "Long COVID", or Post COVID-19 Syndrome (PCS), impacts many patients. Studies estimate up to 37.7% of patients experience lingering symptoms beyond 12 weeks after initial COVID-19 infection. (Whitaker et al) Post COVID-19 Syndrome (PCS) is defined by NICE as ongoing symptoms 12 or more weeks after initial infections with SARS-CoV-2 where alternative explanation for symptoms cannot be found. According to the CDC, myalgias is a common symptom reported in PASC. The exact pathophysiology of PASC is not known. Several hypotheses have been proposed, including endothelial damage, microthrombosis, and neuroinflammation through microglial activation. (Crook et al)

Emerging evidence suggests that low dose naltrexone can be helpful for widespread pain. At doses of 50 mg, naltrexone acts as an opioid receptor antagonist. However, at lower doses of 1 mg – 4.5 mg it appears to have unique immunomodulating activity. At these doses it is commonly referred to as LDN (low dose naltrexone). Although the mechanism is not entirely clear, its effects may be due to antagonism of opioid growth factor receptor (OGFr), inhibition of toll-like receptor-4 inflammatory signaling, and immunomodulation of microglia. (Li et al). Though studies are small, LDN has been shown to be beneficial for pain conditions including fibromyalgia and complex regional pain syndrome. (Younger et al)

As glial cell activation is one proposed mechanism of prolonged symptoms in PASC, and LDN is proposed to modulate pain due to glial cell immunomodulation, the author proposed that LDN may be a useful tool in the treatment of PASC-associated myalgias.

Materials and Methods

A 65 year old female seen in our center's pain clinic for the management of cervical spine pain and spondylosis, and most recently chronic right knee pain due to osteoarthritis, presented for a scheduled post-procedure follow-up.

She was recently treated with right knee genicular nerve blocks, and at the follow-up evaluation 15 days after the procedure, she expressed improvement in right knee pain, but also reported worsening, severe widespread myalgias over the past several weeks, especially over the past few days prior to her visit, up to 10/10 in severity. She was taking Celebrex 200 mg daily, prescribed by her rheumatologist, without relief. She had not discussed the recent worsening of her symptoms with her PCP or other physician specialists. Further review revealed that the patient had a history of COVID 19 infection 4 months prior and had been experiencing lingering widespread myalgias ever since the infection, with a severe flare over the past 3-4 days.

For the widespread flare in pain and myalgias, the patient was advised to reach out to her PCP for an acute work-up. In the past the patient had relief of cervical spine and arthritis-associated pain with duloxetine, but had adverse cognitive effects, and tapered off. Due to her history of other musculoskeletal complaints, her persistent pain despite Celebrex usage, and previous intolerance to other coanalgesics, the author prescribed the patient a trial of low dose naltrexone at 3.5 mg daily for widespread pain/myalgias.

Results

The patient notified our clinic the following day that a home COVID rapid test was positive, and she was dealing with reinfection. She had informed her PCP via electronic communication. She also noted that naltrexone at 3.5 mg daily was improving her widespread myalgias notably. The patient was seen for follow-up 6 weeks later. In the interim, she was seen by her rheumatology team, who felt her widespread myalgias were likely related to COVID 19 infection, and she was advised to stop LDN now that she was out of the acute infection period. She stopped the LDN for a period of 2 weeks. However, after stopping the LDN, her myalgias flared notably and persisted, and thus she resumed the LDN at 3.5 mg daily.

She reported at this follow-up that the LDN 3.5 mg daily was helping the widespread myalgias significantly. Her pain was previously averaging 8/10 without LDN, and now averaged 3/10. Her LDN was continued at 3.5 mg daily. A telephone follow-up was performed 1 month later. During the conversation the patient confirmed that the LDN at 3.5 mg daily was helping her widespread myalgias notably, bringing her pain from 8/10 to 3/10 on average. She denied adverse effects. A discussion via electronic communication was also had with her rheumatology team, who confirmed that the likely etiology of her persistent widespread myalgias was due to her COVID 19 infections, and thus consistent with PASC, or “long COVID.”

Discussion

PASC (Long Covid) is a troubling syndrome arising after the COVID 19 pandemic. LDN can be useful in the treatment of widespread pain. Some studies have suggested that LDN may be a useful therapy in the treatment of Long COVID (PASC). One 2022 study of LDN in the treatment of PCS, showed that 36 patients who took LDN for 2 months reported statistically significant improvement in pain and other outcome measures. (O’Kelly et al). Though this is an isolated case report, and further studies are needed, our patient had excellent improvement in widespread myalgias secondary to Long COVID when treated with LDN at 3.5 mg daily. LDN may be an effective and relatively safe treatment option in the treatment of widespread myalgias associated with PASC or “Long COVID.”

References

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