



In a recent study, the author from the United States presented four patients who suffered from different symptoms of long COVID. Treatment with acyclovir clinically resolved or significantly improved symptoms in all patients. However, symptoms returned after the discontinuation of acyclovir. Therefore, chronic use of acyclovir for weeks to months was required in each case to achieve lasting benefit. This study demonstrated that four patients with long COVID improved with chronic use of acyclovir.

COVID-19 patients often experience prolonged symptoms that can last for months, a condition known as long COVID or PASC (post-acute sequelae of COVID). The mechanisms underlying long COVID and the differences in its manifestation are poorly understood.

Acyclovir, which was approved for medical use in 1981, is a nucleoside analog that selectively inhibits the replication of herpes simplex virus type 1 and 2 and varicella-zoster virus.



### *About the study*

The diagnosis of COVID-19 was confirmed by a reverse transcription polymerase chain reaction in all cases. All the patients tested negative after the acute infection ended.

### **Case One**

A 16-year-old male presented with a history of migraines, which began when he was ten years old. At the age of 15, he had a brain concussion, and the frequency of headaches increased, occurring two to three times per week. The headaches became more severe, with nausea, increased light sensitivity and a change in sleep pattern. A viscous lidocaine cetirizine regimen and promethazine were prescribed.

Four months after having a concussion, he got COVID-19. After COVID-19, the severity and



frequency of the migraines increased, with headaches occurring almost every day. He suffered from daily nausea, vomiting, and sensitivity to light and sound, and he was unable to perform daily activities or attend school. He received treatment with cetirizine, diphenhydramine, prochlorperazine, amitriptyline, ondansetron, meloxicam, botulinum toxin injections, and acupuncture. For 10 months, his headaches persisted with minimal improvement.

At that time, the patient started treatment with acyclovir 800 mg four times a day. The symptoms such as the severity and frequency of the headaches, sensitivity to light and sound, nausea and vomiting were improved or greatly diminished after a 5-day course of acyclovir. He was able to fully function, and he went back to school. After completing the treatment, symptoms started to return, and the 5-day course was repeated six times. Each time a significant improvement occurred, but, when the acyclovir was discontinued, his symptoms would start to resurface. The patient is now taking acyclovir continuously.

### **Case Two**

A woman aged 57 years underwent a craniotomy and microvascular decompression procedure for trigeminal neuralgia 15 years before the COVID-19 infection. After the procedure, she recovered with a complete resolution of pain. Two weeks after her recovery from COVID-19, she experienced a return of trigeminal neuralgia and facial pain as severe as the pain she experienced fifteen years ago. The brain magnetic resonance imaging was negative.

She started treatment with acyclovir, a dose of 800 mg four times daily. Within 24 hours, facial pain subsided and disappeared after 48 h. After completing a three 5-day course of acyclovir, her facial pain returned, so, acyclovir was continued for four months, and, then gradually reduced over ten days. For nine months, the patient is pain-free.

### **Case Three**

During the acute phase of COVID-19, a 63-year-old woman experienced respiratory symptoms. She was a very active before COVID-19 and walked two miles a day, but after the infection she couldn't walk without dyspnea and tiredness. She used oxygen nasal prongs at night, and her PO<sub>2</sub> was in the 80s mm Hg. Symptoms of long COVID-19 continued for eighteen months.

She started treatment with acyclovir 800 mg four times daily for 5 days, and, she experienced some improvement. After the next two 5-day courses of acyclovir, she



continued with the treatment for four months. She experienced improvement, and was again able to walk two miles per day again, and PO2 increased to 90 mm Hg. Acyclovir was gradually reduced over a one-week period, and treatment was stopped, but her long COVID symptoms returned, so, the treatment was restarted again.

#### ***Case Four***

A 40-year-old woman developed COVID-19 six months after lumbar microdiscectomy for radicular leg pain. Three to four weeks after infection, the radicular pain returned. The magnetic resonance imaging of the lumbar spine revealed a negative result for disc recurrences. She began the treatment with acyclovir 800 mg four times daily, and her leg pain was gone within three days. Acyclovir use was continued for three weeks, and then, gradually reduced. The leg pain did not return.

The author emphasized that despite the initial effects of acyclovir, chronic use of the acyclovir for weeks to months was required in all cases to achieve sustained therapeutic benefit. Adverse effects were not observed with chronic use of acyclovir. The researcher stated that this study should provide a basis for further studies to verify these findings.

#### ***Journal Reference***

Beatty RM. Long COVID-19 Symptoms Remedied by Anti-Viral Treatment in Neurosurgical Patients. American Journal of Infectious Diseases. Volume 19 No. 3, 2023, 39-44. <https://doi.org/10.3844/ajidsp.2023.39.44>

In another case series study, the authors from the United States also reported four cases in which acyclovir was used successfully to treat symptoms after the SARS-CoV-2 infection, especially those related to encephalopathy and neurologic problems. With acyclovir, symptoms were relieved, and IgG and IgM titers were reduced. These findings demonstrate that acyclovir is a safe and effective treatment for long COVID neurologic sequelae.

#### ***Journal Reference***

German ER, Jairath MK, Caston J. Treatment of Long-Haul COVID Patients With Off-Label Acyclovir. Cureus 15(4): e37926. <https://www.cureus.com/articles/128535-treatment-of-long-haul-covid-patients-with-off-label>



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