

Pruritic foot pain:
an unusual presentation of neuropathy
after COVID-19 infection

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INTRODUCTION
COVID-19 infections can cause significant neurologic complications including peripheral nerve damage and post-viral neuropathic pain.

METHODS
As the case report is devoid of patient identifiable information, it is exempt from IRB review requirements as per Henry Ford Health policy. Patient consent was obtained for publication and discussion of this case report.

CASE REPORT
Initial visit

- 57-year-old female with a past medical history of type 2 diabetes mellitus, chronic neck and low back pain presented with a chief complaint of left foot pain
- Initial exam: diminished sensation to light touch in bilateral feet, no motor deficits and no structural deformities
- Initial assessment and plan: diabetic neuropathy, start pregabalin and physical therapy

Follow-up visit

- Minimal improvement, described worsening symptoms and “deep, painful itching” of the foot

One year later

- Medications had been maximized without any meaningful relief
- Differential diagnosis broadened to include tarsal tunnel syndrome and radicular pain
- New plan: referred to podiatry, start desensitizing physical therapy and a muscle relaxer

Follow-up visit

- No improvement
- A new history was obtained and revealed that a COVID-19 infection immediately preceded the onset symptoms, and her “itching” was noted to be localized to the sensory distribution of the superficial peroneal and tibial nerves
- A new etiology of peripheral neuropathy secondary to viral infection was considered
- A superficial peroneal nerve block did not provide any relief
- A left tibial nerve block resulted in complete resolution of pain and itching

Peripheral neuropathy has
many etiologies, but taking a
careful history can help guide
your treatment plan. Broaden your
differential to include **COVID-19**
viral infections as a possible
etiology of peripheral neuropathy.

DISCUSSION
This case underscores the importance of considering a broad differential for neuropathic pain.

Unilateral foot pain and itching is more consistent with a presentation of peripheral neuropathy than her initial diagnoses. It is therefore reasonable that treatment modalities for diabetic neuropathy and radicular back pain were ineffective for this patient, but we achieved full resolution of her symptoms when treating peripheral neuropathy with a peripheral nerve block.

The importance of taking a detailed history was also reinforced as report of her recent viral infection was not revealed until after the patient had failed over one year of treatments

Overall, this case illustrates the challenge of identifying COVID-19 related neuropathy, indicating an opportunity for further research and evaluation into the neurologic sequelae of COVID-19 infections

OSTEOPATHIC TENET
Structure and function are reciprocally interrelated. Rational treatment is based on understanding these principles.

Causes of neuropathy in feet
Diabetes
Physical trauma, compression or injury
Chemical or toxin exposure • <i>Alcohol</i> • <i>Heavy metal poisoning</i> • <i>Chemotherapies</i> • <i>Drug-induced</i>
Vitamin B12 deficiency
Hereditary causes • <i>Charcot-Marie-Tooth</i>
Infection • <i>Viral infections (i.e. COVID-19, HIV, herpes zoster)</i> • <i>Bacterial infections (i.e syphilis, Lyme disease)</i>
Autoimmune disease • <i>Systemic lupus erythematosus</i> • <i>Rheumatoid arthritis</i> • <i>Guillain-Barré syndrome</i>

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