

- Virus / Immune system

'Covid toe' may be side-effect of immune response, says study

The Guardian Australia · 7 Oct 2021 · 39 · Kevin Rawlinson and agency

The skin condition known as Covid toe may be a side-effect of the immune system's response to fighting off the virus, according to a study.



The symptom results in chilblainlike inflammation and redness on the hands and feet, with the condition sometimes lasting for months at a time. It typically develops within a week to four weeks of being infected and can result in toes and fingers becoming swollen or changing colour.

Researchers behind the study, which has been published in the *British Journal of Dermatology*, examined 50 participants with the condition and 13 with similar chilblains lesions that arose before the pandemic.

They found one mechanism behind both types of the condition involved the body generating an immune response with high levels of certain autoantibodies, which mistakenly target and react with a person's own cells and tissues as well as the invading virus. They also found an overlap with type I interferon, a key protein in the antiviral response.

In addition to the immune system, cells lining blood vessels that supply the affected areas also appeared to play a critical role in the development of Covid toes and chilblains.

The senior author of the study, Dr Charles Cassius, said the research provided a deeper understanding of the condition. "The epidemiology and clinical features of chilblain-like lesions have been extensively studied and published. However, little is known about the pathophysiology involved. Our study provides new insights."

Concerns were raised in the opening months of the pandemic that so-called Covid toe was one of the non-recognised symptoms of infection, after patients in several countries reported the condition even though, in some cases, they displayed none of the usual symptoms.

Red or purple lesions on the side or sole of the foot or on hands and fingers were described. In May 2020, the *European Journal of Pediatric Dermatology* reported an "epidemic" of cases among children and adolescents in Italy. It said that, unlike other rashes associated with coronavirus, it had not been previously observed.

“We observed an ‘epidemic’ of acute and self-healing vasculitic lesions of the hands and feet in asymptomatic children and adolescents. These lesions constituted a novelty that led us to establish a link with the other much more severe novelty, ie Covid-19, which also occurred almost simultaneously,” they wrote.

The UK podiatrist Dr Ivan Bristow agreed that, for most people, the condition cleared up itself – similar to chilblains. However, he said some people might need treatment with creams and other drugs. “The confirmation of the cause will help to develop new treatments to manage it more effectively.”

Dr Veronique Bataille, a consultant dermatologist and spokesperson for the British Skin Foundation, said Covid toe was seen very frequently during the early phase of the pandemic, but had been less common in the current Delta variant wave.

She said that might be down to more people being vaccinated or having some protection against Covid from past infections. “Presentations after vaccination are much rarer.”