

Researchers suggest increased risk of respiratory-tract infections in people on certain psoriasis treatment

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After examining data from large trials of autoimmune-disease medications called Interleukin-17 (IL-17) inhibitors, researchers at the Perelman School of Medicine at the University of Pennsylvania found individuals who took these treatments were about 30 to 60 percent more likely to develop symptoms associated with respiratory-tract infections. The findings could signify that IL-17 inhibitors may influence susceptibility to different viral and other types of respiratory infections. Since the novel coronavirus is a type of viral respiratory infection, the results also encourage further investigation into a potential relationship between IL-17 inhibitors and COVID-19. The study was published recently in the *Journal of the American Academy of Dermatology*.

IL-17 [inhibitors](#) are commonly prescribed to patients with certain autoimmune diseases, like psoriasis, [psoriatic arthritis](#), and ankylosing spondylitis to decrease symptoms because they disrupt the attacks that an over-active immune system can launch on itself. Current scientific understanding of IL-17 inhibitors suggests that these medications do not have a major effect on viral immunity but are important to mucosal immunity, which plays a vital role in protecting against viruses, bacteria, and fungi in the outside world. Penn researchers saw an increase in the number of diagnoses and symptoms consistent with respiratory-tract infections in IL-17-inhibitor-treated participants as compared to those in a [placebo group](#). This indicates that patients taking IL-17 inhibitors could be more susceptible to respiratory infections. These infections typically are benign and self-limited but the emergence of SARS-Cov-2 has demonstrated the potential for serious health consequences of novel respiratory infections.

"Our patients are concerned about the immune

suppressive effects of their treatments," said lead author Joel Gelfand, MD, MSCE, a professor of Dermatology and Epidemiology and the director of the Penn Psoriasis and Phototherapy Treatment Center. "Our findings point to the need to determine whether IL-17 inhibitors make patients more susceptible to COVID-19 infection."

The researchers analyzed data from placebo-controlled phase-three trials of the IL-17 inhibitors secukinumab, ixekizumab, and brodalumab which are currently approved by the Food and Drug Administration (FDA) for the treatment of psoriasis and other [autoimmune diseases](#). IL-17 is a type of protein that is particularly important in fighting off superficial candida infections (such as oral thrush or vaginal yeast infections). They are also involved in the development of psoriasis, psoriatic arthritis, asthma, and inflammatory bowel disease. Blockade of IL-17 leads to rapid improvement in the signs and symptoms of psoriasis in most patients.

Amidst the coronavirus pandemic, scientists are also looking into whether or not IL-17 inhibitors may assist in the recovery of individuals with severe cases of COVID-19 whose immune systems are reacting too extremely.

"At the moment, we think our results support guidance from the American Academy of Dermatology," Gelfand said. "The absolute extra risk over a period of 12 weeks was only about 3 percent higher in the treated group compared to the placebo group. Individuals on one of these medications who do not have COVID-19 should discuss with their clinicians the risks and benefits of continuing treatment during this pandemic and whether they should stop it if they develop signs or symptoms of infection. Despite the uncertainty, we need to balance the known benefit of having psoriasis well controlled with what currently are

theoretical concerns of possibly slightly increasing the risk of [infection](#) is COVID-19."

More information: Marilyn T. Wan et al. The risk of respiratory tract infections and symptoms in psoriasis patients treated with IL-17-pathway inhibiting biologics: A meta-estimate of pivotal trials relevant to decision-making during the COVID-19 pandemic, *Journal of the American Academy of Dermatology* (2020). [DOI: 10.1016/j.jaad.2020.05.035](#)

Provided by Perelman School of Medicine at the University of Pennsylvania

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