Medical Xpress

Inhaled steroids may increase risk of nontuberculous mycobacteria lung infections

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Using inhaled steroids may increase nontuberculous mycobacteria (NTM) lung infection risk. Credit: ATS

Patients using inhaled steroids to control asthma and other breathing problems may be at greater risk for developing nontuberculous

mycobacteria (NTM) lung infections, according to new research published online in the *Annals of the American Thoracic Society*.

NTM are in the same family as tuberculosis, but NTM come in many different species and are widely dispersed in the environment. Although they cannot be spread from person to person, NTM are difficult to treat and can cause serious illness, and even death.

In "Association between Inhaled Corticosteroid Use and Pulmonary Nontuberculous Mycobacterial Infection," Stephen J. Ruoss, MD, and co-authors analyzed the medical records of 549 patients diagnosed with NTM lung infections in Northern California over a 10-year period.

They found that the odds of developing NTM pulmonary infection were 2.7 times greater in those patients who had filled three or more prescriptions for an inhaled steroid. They also found that the longer a person was on an inhaled steroid and the higher the dose, the more likely the patient was to develop an NTM lung infection.

"The increasing prevalence of NTMs is disconcerting because some of the most common types of NTM are harder to treat than multidrug-resistant TB," said Dr. Ruoss, senior study author and a pulmonologist and intensivist at Stanford University Medical Center in California. "The rapidly growing number of NTM infections has occurred during a time when inhaled steroid use has increased, and we wanted to see if there was a potential connection."

According to the authors, the prevalence of NTM infection in the early 1980s was reported to be as many as 1.8 cases per 100,000 persons. More recent studies have shown that the prevalence in some regions of the country may now be over 40 cases per 100,000 persons.

During this time, inhaled steroid use has grown. First used in the early

1980s in the U.S. to treat asthma, inhaled steroids are increasingly also used to treat COPD, or chronic obstructive pulmonary disease, and bronchiectasis, a chronic inflammatory condition that scars the airways.

Some studies have found that as many as three-quarters of COPD patients may be taking an inhaled steroid. While inhaled steroids are now commonly prescribed and used in COPD, it is likely only a modest number of patients who gain significant clinical benefit from this treatment, according to the authors.

"There have been some big studies that have shown a very modest, but statistically significant, benefit of inhaled steroid use in COPD patients," Dr. Ruoss said. "These studies have also shown that COPD patients who use these drugs are at a slightly greater risk of developing routine bacterial infections."

Because inhaled steroids appear to depress the immune system, they may contribute to the risk of respiratory infections, including NTM infections, the authors wrote. "Inhaled steroids are standard therapy for those with asthma because the benefits have proven in studies and clinical practice to outweigh the risks," Dr. Ruoss said. "But as physicians, we should be careful using this class of drugs broadly in patients with COPD."

As with asthma patients prescribed an inhaled steroid, Dr. Ruoss recommends that physicians "concretely and objectively" assess whether their COPD patients are benefitting from the drug, and if so, work to prescribe the lowest effective dose if the patient cannot eventually be taken off the drug entirely.

For all their patients on inhaled steroids, Dr. Ruoss added, doctors should be "mindful of the increased risk for infections and monitor for routine and mycobacteria infections."

Study limitations include the fact that it was not a randomized, controlled trial so it cannot prove that inhaled steroids result in increased numbers of NTM lung infections.

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