Medication apremilast leads to fat loss in people with psoriasis

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For years, apremilast (brand name Otezla) has helped psoriasis patients achieve clearer skin and ease the symptoms of their psoriatic arthritis. Now, new data from researchers at the Perelman School of Medicine at

the University of Pennsylvania shows it could also help people with psoriasis shed unhealthy body fat and therefore improve cardiovascular health, a well-known vulnerability for those with psoriasis. The findings are published in *JAMA Dermatology*.

"The study's most provocative findings are that the drug decreased subcutaneous and visceral fat," said first study author Joel M. Gelfand, MD, MSCE, vice chair of clinical research and medical director of the Penn Medicine Dermatology Clinical Studies Unit, director of the Psoriasis and Phototherapy Treatment Center, and the James J. Leyden, M.D. Endowed Professor in Clinical Investigation in the Department of Dermatology.

"We're trying to untangle cardiovascular disease for this population so they can achieve better outcomes in the skin and joints, and live longer, healthier lives. This study was a proof-of-principle to better understand the impact apremilast would have on vascular disease."

People with psoriasis face elevated risks of serious cardiovascular events like heart attack and stroke. A substantial body of scientific evidence from previous research, including a seminal 2006 paper from Gelfand published in *JAMA*, shows that people with psoriasis, particularly those with a severe form of the disease, have an increased risk of death from cardiovascular causes when compared to the general population, Gelfand said.

Many risk factors commonly linked to cardiovascular disease—hypertension, diabetes, dyslipidemia, obesity, and metabolic syndrome—also are more prevalent in people with psoriasis.

The current study, which included 70 patients, primarily measured changes in inflammation around the aorta, the body's largest artery, but also assessed changes in body composition and 68 cardiometabolic

biomarkers.

While apremilast brought about no meaningful changes in aortic inflammation on the whole, it generated "variable but generally beneficial" decreases in certain biomarkers that impact cardiovascular health. The most notable change was an average 5 to 6 percent reduction in subcutaneous and visceral fat that emerged roughly four months into treatment with apremilast and persisted during treatment and through the end of the study at the one-year mark.

"Visceral fat, or fat that wraps around the abdominal organs, is of special interest because it is particularly dangerous from a cardiovascular standpoint," Gelfand said. "It leads to problems like metabolic syndrome, cardiovascular disease, and other issues, so seeing a drop in visceral fat during apremilast treatment suggests that, over the longer term, psoriasis patients who take apremilast may be on a trajectory toward better cardiovascular health."

Gelfand and his colleagues call for more investigation into the effects of apremilast in a cardiovascular context, including larger, placebo-controlled trials that focus on specific cardiovascular events. In the meantime, Gelfand is determined to better screen for cardiovascular risks specifically among patients with psoriasis and psoriatic arthritis.

"Despite known associations between psoriasis and cardiovascular disease, these patients are actually less likely to get adequately screened," Gelfand said. "And when they have risk factors identified, those factors are actually less likely to be adequately managed compared to their peers without psoriasis. If we can close that gap, we'll likely be able to help individuals with psoriasis live longer and healthier lives."

More information: Joel M. Gelfand et al, Association of Apremilast With Vascular Inflammation and Cardiometabolic Function in Patients