MedicalXpress

People with severe psoriasis nearly twice at risk for diabetes

October 15 2012

An analysis of 27 studies linking psoriasis in 314,000 individuals with diabetes has found strong correlation between the scaly skin rash and the blood sugar disorder that predisposes patients to heart disease, say UC Davis researchers who led the review.

The findings appear in an article titled "Psoriasis and the risk of diabetes : a systematic review and meta-analysis," which is now online in the *Archives of Dermatology*.

"Our investigation found a clear association between psoriasis and diabetes," said April Armstrong, assistant professor of dermatology at UC Davis and principal investigator of the study. "Patients with psoriasis and their physicians need to be aware of the increased risk of developing diabetes so that patients can be screened regularly and benefit from early treatment."

Psoriasis is a common skin problem that tends to run in families. It causes a raised red, flaky and sometimes itchy rash, often on the elbows and knees, although it can appear anywhere. It is believed to be an autoimmune disease, in which the body regards its own skin as foreign and mounts an inflammatory response.

Armstrong and her colleagues combined data from 27 observational studies of patients with psoriasis, in what is known as a meta-analysis. Five of the studies assessed the incidence of diabetes— that is, how many patients with psoriasis developed diabetes during the course of a

study, which ranged from 10 to 22 years. The other studies assessed the prevalence of diabetes—how many patients already had diabetes at the outset of a study. Altogether, the studies evaluated more than 314,000 people with psoriasis and compared them to 3.7 million individuals (controls) without the disease.

Some of the studies classified patients by disease severity. The aggregate data for these studies showed that patients with mild psoriasis are over 1.5 times more likely to have diabetes than the general population while those with severe disease are nearly twice as likely. Among studies that assessed incidence, patients with psoriasis had a 27 percent increased risk of developing diabetes compared with the general population.

All but one study analyzing incidence found a link between psoriasis and diabetes. These studies included patient data from outpatient clinics, insurance claims and hospitals. Diabetes rates were similar in patients despite ethnicity or country where the study was conducted.

"The large sample size and consistent association between psoriasis and diabetes make these study findings very strong and suggest an underlying physiological link between the two diseases," said Armstrong, who directs the Dermatology Clinical Research Unit at UC Davis and the teledermatology program.

While additional research is need to understand how the two diseases are associated, Armstrong believes altered immune pathways may make psoriasis patients more susceptible to developing diabetes.

"There is evidence that fat cells in psoriasis patients may not function normally," she said. "These cells secrete inflammatory substances known as cytokines that increase insulin resistance in the liver and muscle and initiate destruction of insulin-producing cells in the pancreas."

Additional research will also clarify other potential limiting factors in the current study. For example, the study's authors noted that epidemiological or observational studies can be susceptible to confounding factors, such as concurrent medications used to treat psoriasis that may modulate the risk of developing diabetes.

Armstrong's study adds to a growing body of research that shows psoriasis is not just skin deep. "We know patients with psoriasis and hypertension tend to require more aggressive therapy to bring their blood pressure under control," said Armstrong. "We also know that psoriasis patients have higher rates of heart attacks, strokes and cardiovascular-related deaths than the general population. Primary-care physicians need to be aware of these underlying predispositions to disease to provide the best care to their patients."

Armstrong and her colleagues plan to examine endothelial cells—cells that line blood vessels—to better understand the underlying physiological basis of psoriasis. They also are collaborating with other research institutions to develop a network to share clinical data on patients with psoriasis.

Provided by UC Davis