Transcript Details
This is a transcript of an educational program. Details about the program and additional media formats for the program are accessible by visiting: https://reachmd.com/programs/clinicians-roundtable/exploring-the-connection-between-e-cigarette-use-and-psoriasis/36367/

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Exploring the Connection Between E-Cigarette Use and Psoriasis

Announcer:
You're listening to *Clinician's Roundtable* on ReachMD. On this episode, we'll hear from Dr. Joe Tung, a board-certified dermatologist who currently serves as the Medical Director of UPMC Falk Dermatology, Director of the Clinical Trials Unit, and Associate Director of the Dermatology Residency Program. He'll be discussing the relationship between e-cigarette use and psoriasis.

Here's Dr. Tung now.

Dr. Tung:
We have known for a long time that cigarette smoking is linked to psoriasis. Mechanistically, smoking drives oxidative stress and triggers inflammatory pathways like MAP kinase and NF-κB and even the JAK/STAT cascade, all of which play key roles in psoriasis.

But with the rise of e-cigarettes—with usage increasing by 20 percent year over year for the past decade, especially among young adults in the United States—we wanted to know, do these alternatives carry the same risks? E-cigarettes don't burn tobacco, but they still deliver high concentrations of nicotine and other potentially inflammatory chemicals. Until recently, we didn't have much data on how vaping might affect inflammatory skin diseases like psoriasis, and that's what set the stage for our research.

In our study we analyzed data from the 2023 National Health Interview Survey, which included over 28,000 United States adults. After adjusting for multiple potential confounding variables, including whether they also used conventional cigarettes, we found a statistically significant association between e-cigarette use and psoriasis. Specifically, those who used e-cigarettes had about 25 percent greater odds of also having psoriasis. When we broke that down by sex, the association was even stronger among men. For males the adjusted odds ratio was over 1.5.

As for why e-cigarettes might be associated with psoriasis, one explanation lies in nicotine itself. Nicotine has been shown to stimulate the release of interleukin-8, which we know promotes the migration of leukocytes into tissues. That leukocyte infiltration is a hallmark of the chronic inflammation we see in psoriasis. Nicotine also contributes to oxidative stress and endothelial dysfunction, which can further aggravate systemic inflammation.

Another possibility is the effect of the flavorings and the aerosols used in e-liquids. These compounds may not be as benign as they seem. They've been shown to impair the skin barrier, delay wound healing, and cause local irritation. That kind of environmental insult might be enough to trigger or exacerbate psoriatic lesions, especially in genetically predisposed individuals.

Of course, the main caveat here is that this was an association study we did. Living with psoriasis can be incredibly stressful, and it's possible that people with the condition turn to e-cigarettes as a form of coping. That means the relationship could also be bidirectional. It's one reason we can't yet say with certainty that vaping causes psoriasis. What we can say is that there's a significant association between the two.

Announcer:
That was Dr. Joe Tung talking about the connection between psoriasis and e-cigarette use. To access this and other episodes in our series, visit *Clinician's Roundtable* on ReachMD.com, where you can Be Part of the Knowledge. Thanks for listening!

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