

### 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/frontlines-psoriasis/genetics-in-psoriasis-impacts-on-risk-comorbidities-and-care/32435/>

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## Genetics in Psoriasis: Impacts on Risk, Comorbidities, and Care

### Announcer:

You're listening to *On the Frontlines of Psoriasis* on ReachMD.

On this episode, we'll hear from Dr. Audrey Bui, who's a recent graduate from Lake Erie College of Osteopathic Medicine and an intern at the University of Central Florida prior to starting her dermatology residency at Hackensack Meridian Health Palisades Medical Center. She'll be discussing her recent research analyzing the role of genetics in patients with psoriasis.

Here's Dr. Audrey Bui now.

### Dr. Bui:

Because of the large role that genetics play in psoriasis, we thought it would be worthwhile to explore how these genetic factors play into psoriasis development and subtypes, comorbidities, and even treatment response.

So, currently, there are over 70 genetic loci that are associated with psoriasis. However, the HLA-C\*06:02 allele is believed to contribute the most significant genetic effect, with prior studies showing that each additional copy of this allele resulted in 206 percent increased risk of psoriasis. The presence of this allele is protective, which means it's associated with a lower risk of obesity and hypertension, which are actually common comorbidities of psoriasis. Meanwhile, there were other genetic variants that were associated with increased risk of obesity, diabetes, and psoriatic arthritis.

Other interesting associations were found between psoriasis and thyroid disease, juvenile idiopathic arthritis, various liver diseases and even MS, and this is due to the shared genetic factors affecting the complex interleukin signaling pathways and transcription activation. These findings help explain the differences we see between different patients in their comorbidity presentation. A particularly interesting finding for all healthcare providers is that the HLA-C\*06:02 allele is associated with increased risk of coronary artery disease in psoriasis patients and given the high risk of morbidity seen with this comorbidity, we see potential value in using HLA-C\*06:02 as a gene marker for cardiac complications in psoriasis patients.

Psoriasis can be a difficult disease to manage, and this is partially due to the different genetic factors contributing to the development of it. With the increasing use of biologics, it is important to know how the patient's genetic profile could affect treatment response. Multiple studies show that no genetic variants were associated with a better or worse response to the anti-interleukin 17 therapy, which suggests it's an overall good choice for psoriasis patients. However, the use of this therapy does have to take into account patient or family history of IBD due to clinical findings suggesting IBD induction or exacerbation. On the other hand, additional studies found that ustekinumab, which is an interleukin-23/12 blocker, was found to have significantly better response in the HLA-C\*06:02-positive patients. Additionally, studies found that genetic variants involved in more general psoriasis pathogenesis, such as HLA-C\*06:02 or FOXP3, were found to result in better responses to methotrexate, whereas genetic variants involved in drug efflux transporters were associated with methotrexate toxicity. So when a patient doesn't react as expected to a treatment, these are some of the things that can be considered.

So based on these studies, we can really see the value of using some of these variants as gene markers for the development of specific comorbidities as well as guiding us in choosing the right medication for our patients that will have both the lowest risk and highest efficacy. This would really allow for targeted care for psoriasis patients, allowing them to truly reap the benefits of all the advances that have been made in this field over the past few decades.

### Announcer:

That was Dr. Audrey Bui talking about the connection between genetics and psoriasis susceptibility, comorbidities, and treatment

response. To access this and other episodes in our series, visit *On the Frontlines of Psoriasis* on ReachMD.com, where you can Be Part of the Knowledge. Thanks for listening!