

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/dermconsult/sodium-intake-and-psoriasis-new-evidence-linking-diet-and-skin-health/32453/>

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Sodium Intake and Psoriasis: New Evidence Linking Diet and Skin Health

Announcer:

Welcome to *DermConsult* on ReachMD. On this episode, we'll hear from Dr. Katrina Abuabara, who's a dermatologist at UCSF Health. She'll be discussing her recent study, which explored the potential link between sodium intake and psoriasis. Here's Dr. Abuabara now.

Dr. Abuabara:

We've known for a long time that sodium is associated with cardiovascular disease. And we know from randomized trials that if we reduce our sodium intake, we can reduce hypertension and cardiovascular disease, so perhaps it's not surprising that it might have impacts on other inflammatory conditions as well. I saw a study where they found that we store large amounts of sodium in our skin. That wasn't something we knew; we thought the kidney did all the processing, but in fact, skin, muscle, and joints also probably play a role in sodium storage and processing in the body.

And so there was one basic science study that looked at animal models and a small group of humans with psoriasis, and they showed that levels of sodium stored in the skin were associated with more severe psoriasis. And there's a whole immunology literature that shows that sodium can have a bunch of important roles in the skin, including triggering inflammation to prevent infection, perhaps reducing water loss, and also maybe as a sink for storage when we overconsume.

So putting all these different pieces of information together, we thought it would be really interesting to look at whether markers of sodium intake were associated with psoriasis in a big population. So we used a big database called the UK Biobank, which includes over 500,000 people who signed up to donate some samples, like urine samples. They were imaged, and all their medical records were linked to this database where researchers can apply to look at the information to study health. So what we did was a cohort study where we looked at markers of sodium intake based on a urine sample, and there was an equation that had already been validated for cardiovascular research that took into account a number of factors—like the body mass index, the sex, and the amount of creatinine or potassium in the urine—to try to get an accurate estimate of what someone had taken in in terms of sodium, and we looked at whether that was associated with psoriasis based on medical records.

So we found that the estimated sodium intake was associated with psoriasis. For every 1g increase in the estimated amount of sodium, we saw an 18 percent increase in the odds of psoriasis. So a gram of sodium is about equivalent to what's in a Big Mac, or if you're in the UK, a can of baked beans. And we actually validated this in a second dataset because it's always good to see if your results apply. We used a US-based data set called the National Health and Nutrition Examination Survey that had slightly different measures of sodium intake and a different measure of looking at psoriasis, and there we saw a similar association. For every 1g increase in sodium intake, there was about a 40 percent increase in the odds of psoriasis.

We tried to understand whether this could be confounded by a history of cardiovascular disease or whether you were taking different antihypertensive medications or your kidney function, so we did a bunch of sensitivity analyses, and it seems like the results are still similar, even when we adjust for different factors. We also looked at interactions in the data to see whether this was more true for certain subpopulations, and we didn't see strong differences by age, sex, ethnicity, or a polygenic risk score or genetic predisposition towards psoriasis or even among those with a history of hypertension, chronic renal failure, or type 2 diabetes. So we see the association but not necessarily in any specific subgroup. So we don't yet know whether sodium in the skin is actually mediating this interaction, but that's our hypothesis, and so we have trials ongoing now to try to understand the specific association.

Announcer:

That was Dr. Katrina Abuabara talking about how increased sodium intake might be associated with psoriasis. To access this and other

episodes in our series, visit *DermConsult* on ReachMD.com, where you can Be Part of the Knowledge. Thanks for listening!