Vegan Diet May Reduce Biological Age: Results from the Twin Study Transcript

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Vegan Twin Study Overview

We have a new publication from the Vegan Twin Study which spawned a whole Netflix documentary. We already know that the 21 twins who were put on the vegan diet for 8 weeks saw improvements in cardiovascular risk factors on average compared to their siblings who are put a healthy omnivorous diet, but now we have the results for the possible effects on aging.

Epigenetic Aging and Clocks

The researchers looked at various measures of epigenetic aging While our genes are set, some genes can be turned on or off by adding or removing a sort of chemical tag to the DNA.

which is where the word epigenetics comes from, because epi means on or above. And these epigenetic patterns tend to change with age, so researchers have constructed epigentic clocks to help estimate our epigonetic age.

With lower being better. Having an older epigegenetic is associated with aged-related diseases and is a strong predictor of all-cause mortality.

Diet Effects on Aging Markers

The vegan diet group saw improvements in three overall epingenetic-age metrics and five system-specific metrics. Those systems being inflammation, heart, hormone, liver, and metabolic health.

While the omnivorous diet group did not see any significant changes. Those on the vegan diet also saw lengthening of their telomeres by one of the two measures they used while the Omnivores did NOT.

Telomers are caps on end of our DNA, much like the plastic tips on ends of shoelaces that prevent them from fraying. But in this case, they protect the DNA from degrading.

And as our dna replicates throughout our life, the telomeres just get shorter and shorter until there's none left.

Telomeres, Weight Loss, and Caveats

so telomere length is often used as a measure of cellular aging. So the researchers were actually quite shocked that they saw any lengthening of telomerase in just eight weeks with a diet intervention, but they do note that the vegan diet group did lose more weight, so weight loss cannot be ruled out as the driver of at least some of these benefits.

They also highlight that it's not clear how these values may change with a longer follow-up. So while the results are interesting and overall positive for those adopting plant-exclusive diets, it is not entirely clear what aspects of the diet or weight loss are responsible for these results and how they would impact long-term outcomes.

Research Limits and Media Framing

The hope is that it will spark future research. This is just a stepping stone in building our understanding of the complex interplay between diet, epigenetics, and outcomes, which is one reason why the researchers are cautious in their interpretations.

But now let's see if the media bothers to emphasize that point.