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UChicago Medicine



Celiac Disease and Vitamins A and D

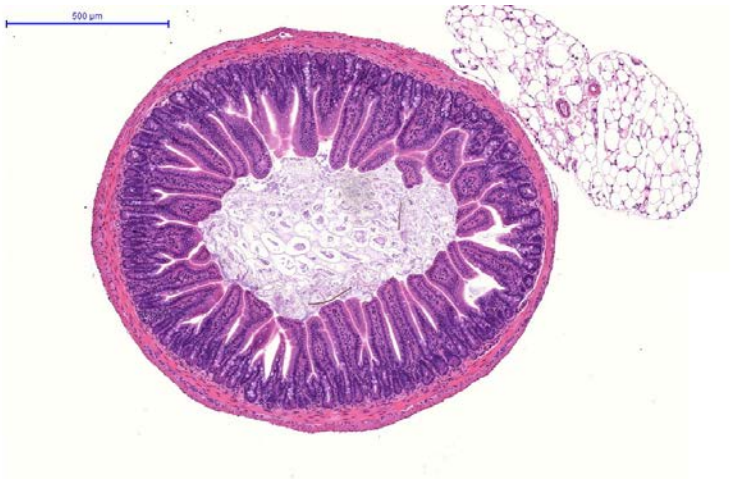
A report prepared for
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Your input and your support have helped open a promising new area of research into celiac disease. Bana Jabri, MD, PhD, research director at the University of Chicago Celiac Disease Center, has just conducted the first stage of an investigation you proposed into the effect of Vitamins A and D on celiac disease in mice. The results are exciting, and set the stage for a next phase that could lead to a novel and effective treatment for patients.

Dr. Jabri fed gluten to mice genetically engineered to have celiac disease. The mice developed the intestinal damage—villous atrophy—characteristic of celiac disease.



Dr. Jabri then administered both Vitamin A and Vitamin D along with gluten to mice. Most of these mice showed no intestinal damage.



Preliminary data suggest that Vitamin A and D treatment prevents the development of villous atrophy in mice with celiac disease that are exposed to gluten. Administering these vitamins reduces the toxicity of the cells that destroy epithelial cells in celiac disease.

Next steps

- Starting in April, we will be repeating this experiment to confirm the results
- Conduct studies of individual Vitamin A and Vitamin D treatments to determine whether both are required or one alone is sufficient
- Do further research to understand the mechanisms through which these vitamins prevent tissue destruction
- Following the above, we will produce an educational manuscript on this work

Your impact

This work suggests exciting new possibilities for treating celiac disease—and it was your instigation and support that made it possible. Not only did you suggest examining the effect of Vitamins A and D, but your support helped enable Dr. Jabri to develop the mouse model in which the study was performed.

It is the first, and so far only, mouse model to fully replicate celiac disease. While other researchers were able to engineer mice that mounted an immune response to gluten, only Dr. Jabri's team was able to create mice that also developed intestinal damage. This study focused on that villous atrophy, and could not have been conducted without mice capable of developing it.

We are grateful for your contribution advancing understanding and treatment of celiac disease, and excited to move forward.

Research and medical notice. The vitamin A and D combinations described here have been studied only in cells and animals, not in people. This research is shared for education and is not medical advice or a recommendation to take vitamins A or D, which can be harmful at high doses. Talk with your doctor before starting a supplement or changing any treatment.