Additional effects of dietary advanced glycation end products

To the Editor:

The excellent review by Smith et al. makes a convincing case for the contribution of dietary advanced glycation end products (AGEs) to the development of food allergy. There is also additional evidence that AGEs may be involved in asthma. Induced sputum levels of the AGE pentosidine are higher in patients with asthma than in those without asthma, and increase with age at a markedly faster rate in patients with asthma than in controls, such that they are higher in young patients with asthma than in old people without asthma. In contrast to most tissues, where the receptor for advanced glycation end products (RAGE) is low or absent unless specifically upregulated, RAGE is present on eosinophils and in upper and lower airways, and at particularly high levels in the airways of patients with chronic obstructive pulmonary disease.

In addition, there is at least 1 instance in which an allergy to a pharmaceutical results from the formation of immunogenic AGE epitopes on the drug.

The negative effects of AGEs are not limited to allergy. There is strong evidence of a causal relationship between AGEs and aging, so much so that the beneficial effects of caloric restriction on decreasing oxidative stress and increasing longevity in mice are reversed when the restricted-calorie diet is modified to also be high in AGEs.

AGEs do not appear on the list of ingredients printed on packaged foods. Anyone interested in eating a healthful diet that is not proinflammatory would do well to consider the high-temperature cooking that creates these immunoreactive compounds.

J D. Miller, MD

From Mission: Allergy, Inc, Hawleyville, Conn, and the Department of Pediatrics, New York Medical College, Valhalla, NY. E-mail: JeffreyMillerMD@comcast.net.

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REFERENCES

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