Antihistamines and Immunotherapy

Allergy meds were linked to longer survival among cancer patients treated with immune checkpoint inhibitors.

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Antihistamines used to treat allergies may be linked to better response to checkpoint inhibitor immunotherapy, helping to explain differences in treatment response. Histamine—a chemical released by certain immune cells—causes allergic reactions and plays a role in immune response.

Looking at 40 commonly used medications, Dihua Yu, MD, PhD, of the University of Texas MD Anderson Cancer Center, and colleagues found that a specific type of antihistamine—drugs that block histamine receptor H1 (HRH1)—was linked to improved survival. Patients with less histamine in their blood were three times more likely to respond to checkpoint inhibitors, and people with melanoma or lung cancer who took antihistamines had significantly lower mortality and longer survival. What's more, preclinical studies showed that the interaction between histamines and HRH1 on macrophages in tumors suppressed T-cell activity, while blocking these receptors restored T-cell activation and curbed tumor growth. Conversely, allergic reactions promoted tumor immune evasion and resistance to immunotherapy. The team is now designing clinical trials to test antihistamines plus checkpoint inhibitors.

"There is more work to be done, but we are excited to continue exploring possible therapeutic applications with antihistamines, which offer an inexpensive approach with minimal side effects," Yu says.

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