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Subject: Brain Tumors and Allergies

Interesting article, by the world's second coolest neurosurgeon (Sanjay Gupta) about a possible relationship between allergies and brain tumors. Histamine seems too obvious, no?

Can allergies prevent tumors?

Whether it's sneezes or hives or a potentially fatal closing of the throat, allergies generally don't bring positive effects.

But some research indicates that having allergies carries at least one health benefit: More than dozen small studies have suggested that people with allergies are less likely to develop gliomas, which are tumors that begin in the brain or spine, and are the most common type of brain tumor.

A new study in the journal *Cancer Epidemiology, Biomarkers & Prevention* adds to that research, finding that the more allergies a person has, the lower the risk of developing one of these tumors. Many other studies looking at allergy and glioma, although not all, have picked up on this association.

But, like previous experiments on the topic, this new study shows only an correlation between allergies and low glioma risk. It does not prove that this is a direct causal connection, said Bridget McCarthy, co-author of the new report and researcher at the University of Illinois, Chicago.

How allergies would prevent tumors is entirely unknown. Some scientists speculate that the immune system of people with allergies is hyperactive, and therefore guards against gliomas. Dr. Melissa Bondy of the University of Texas M.D. Anderson Cancer Center, who was not involved in this particular study but has done similar research, thinks there is a trigger of the production of histamine - an inflammation-causing compound released in allergic reactions - that protects against gliomas and perhaps even other kinds of cancers.

McCarthy and colleagues took information from 419 patients who had glioma and 612 who didn't who had been to hospitals in NorthShore University HealthSystem and Duke University Health System. All participants self-reported their allergies - including to pets, food, pollen, medication, and other triggers - and antihistamine use.

According to this new study, there were gliomas among people who reported having allergies. However, the use of antihistamine did not appear to significantly influence glioma risk on the whole, the researchers found.

But when Bondy looked antihistamine use in her study, she found it actually increased a person's chance of developing a glioma. She theorizes that certain medications may ease

sneezes at the expense of taking away the protective value of the allergic reaction against cancer - but this is also speculation, she said.

An important limitation of this new study is that participants may have misremembered their allergy medication usage and the number of allergies that they have. And environmental or other factors relating to allergies were not controlled for, meaning that it could be that it's not the allergies but something else in the participants' lifestyle or living situation that accounts for the reduced glioma risk, which is something the authors acknowledge.

But given that so many other investigations into the topic find a protective effect of allergies against glioma, Bondy said it's likely that there is something going on involving histamines.

To further explore these ideas, Bondy and colleagues are now recruiting 6,000 cases and 6,000 controls for a large-scale epidemiological study on protective factors in glioma.