Peanut Allergies that could be Treated with a New Injection

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**Abstract**

​ Peanut allergies effect 1-3% of the world population (Lennon, 2019). That doesn’t seem like a huge number when reading it on paper but it really does effect a lot of people. Everyone knows someone with a peanut allergy, no matter how severe. Allergies are dangerous, it has taken lives of many, but it isn’t always thought of something to be aware of when someone doesn’t have an allergy themselves. Allergies are caused by our immune system attacking the substance and causing a reaction, whether it is itching or up to life-threatening. There has been a new injection developed called Etokimab, it has been proven to increase the tolerance of most people who are allergic to peanuts. It does this by inhibiting certain proteins in our immune system which activate antibodies that attack the said allergen. The injection is making its way through the clinical trial phases to test the safety and effectiveness before releasing this into the public’s healthcare system. The experiments on this injection while comparing it to placebo injections, have been reducing the reactions in most of the participants, while continuing to hold out for over a month after the initial injection date. This injection can improve the wellbeing and lifestyle of millions affected.

**Introduction**

The Peanut allergy effects such a large amount of the population, including people I am very close with. There are many side effects to a peanut allergy, and some may be deadly. There are certain levels of allergies, lower numbers are not as severe and higher numbers are life threatening. Most people who are high on the levels, will not outgrow their allergy while not as severe cases could go down overtime. Children could potentially outgrow their allergies but once someone ages, its very rare for it to someone to go down on the severity levels too much, Although, our allergies do adjust every 7 years or so. Some people may just swell in their tongue or start to itch but the severely allergic could potentially go into anaphylactic shock, which will constrict a person’s airway, causing them to not be able to breathe and suffocate. There are such fixes, such as allergy shots and exposure. Although, the people who are severely allergic and are higher on the spectrum, are unable to participate in those treatments, due to safety.

**Recent Progress**

New research has found has found a new injection called Etokimab to help reduce the allergy of peanuts. This injection can be used on those who are too high on the allergic spectrum to receive the treatments that I mentioned before. Allergies are triggered by an immune system protein called interleukin-33, it triggers antibodies to falsely attack with chemicals, causing allergic symptoms (Lennon, 2019). The injection, Etokimab, inhibits the interleukin-33 proteins to stop the allergic reactions from taking place (Lennon, 2019).

**Discussion**

​ A study had 20 participants all with a severe allergy to peanuts, 15 with the actual injection and 5 with a placebo. Fifteen days after the injection was given, the participants were fed a small amount of peanuts, under supervision. With this, the experimenters found that eleven out of the fifteen who received the real injection, were able to eat 275mg of peanuts with no reaction. (Lennon, 2019). In turn, the ones who received the placebo had the same reaction that they have been having before the experiment took place. To double check themselves, the researchers took blood samples that day and found that the participants who receive the injection, had significantly less IgE-antibodies that relate to peanut allergies than those who took the placebo (Lennon, 2019). Again after 45 days, they tested 7 out of the ones who had the Etokimab injections, 4 of those participants passed (Lennon, 2019). Another study, found that 67% of the participants given the etokimab injection on day 15, of a similar study from the one above, passed the peanut allergy test. (Chinthrajah et al., 2019). On day 45, 57% passed and none of the participants that were given the placebo passed (Chinthrajah et al., 2019). There were side effects found in this experiment. 26.7% reported headaches (Chinthrajah et al., 2019). Although 80% of the participants given the placebo injection reported other allergy related symptoms, such as: eczema, asthma, etc. and only 7% of the ones who received the Etokimab reported those symptoms (Chinthrajah et al., 2019). While these researchers have found that a dose of etokimab is safe for the person and can increase peanut allergy tolerance, they still suggest that a larger study confirms their findings. A larger study found that a single dose of 300mg of etokimab improved the participant’s tolerance in 6 of 13 of those with severe baseline symptoms (Veen & Akdis, 2019). While, all these studies have found that for the most part, the injection has helped, they have advanced this injection into Clinical trial phase II. So, hopefully very soon, this injection can lower the reactions to peanut allergies and save lives of the people outside of the trials and into the public.

**References**

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