

Treating Allergies with Immunotherapy: Benefits and Risks

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DESCRIPTION

Allergies are a widespread concern, affecting millions of people globally. From pollen and dust mites to foods and insect stings, allergic reactions can range from mildly annoying to life-threatening. Traditional treatments like antihistamines and corticosteroids provide symptom relief, but they do not address the underlying cause. Immunotherapy, on the other hand, offers a promising alternative that targets the root of the allergic response. This treatment, which includes allergy shots and sublingual tablets or drops, works by gradually desensitizing the immune system to allergens. While immunotherapy has significant benefits, it also carries certain risks and requires careful consideration.

Understanding immunotherapy

Immunotherapy involves exposing patients to increasing doses of allergens over time, with the goal of reducing their sensitivity. This can be administered through subcutaneous injections (allergy shots) or Sub Lingual Immune Therapy (SLIT), where allergens are placed under the tongue in the form of tablets or drops. The treatment typically starts with a build-up phase, where the allergen dose is gradually increased, followed by a maintenance phase, where the dose remains consistent.

Benefits of immunotherapy

Long-term relief: One of the most significant advantages of immunotherapy is its potential to provide long-term relief from allergy symptoms. Studies have shown that the effects of immunotherapy can persist for years after treatment has ended. This contrasts with medications like antihistamines, which only provide temporary relief and must be taken continuously.

Disease modification: Immunotherapy doesn't just alleviate symptoms; it can also modify the course of allergic diseases. For instance, it has been shown to prevent the development of new allergies and reduce the risk of developing asthma in children with allergic rhinitis.

Reduction in medication use: By addressing the underlying immune response, immunotherapy can reduce or even eliminate

the need for other allergy medications. This not only simplifies treatment regimens but also reduces the risk of side effects associated with long-term medication use.

Improved quality of life: Patients undergoing immunotherapy often report significant improvements in their quality of life. Reduced symptoms mean fewer disruptions to daily activities, better sleep, and increased overall well-being.

Risks and considerations

Adverse reactions: While immunotherapy is generally safe, it can cause adverse reactions, ranging from mild local reactions at the injection site to systemic reactions like hives or anaphylaxis. Anaphylaxis, although rare, is a severe and potentially life-threatening allergic reaction that requires immediate medical attention. Therefore, immunotherapy should always be administered in a medical setting where emergency care is available.

Time commitment: Immunotherapy requires a significant time commitment. The build-up phase typically involves weekly visits to the doctor for several months, followed by monthly maintenance shots for three to five years. Sublingual immunotherapy also requires daily self-administration, which demands patient diligence.

Cost: The cost of immunotherapy can be substantial, especially when considering the long duration of treatment. While some insurance plans cover immunotherapy, patients may still face significant out-of-pocket expenses. However, this cost should be weighed against the potential reduction in other healthcare expenses over time.

Not suitable for everyone: Immunotherapy is not suitable for all allergy sufferers. It is most effective for individuals with allergic rhinitis, allergic asthma, or insect venom allergies. It is less effective for food allergies and is generally not recommended for those with multiple, severe allergies or certain medical conditions that increase the risk of adverse reactions.

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Received: 22-Feb-2024, Manuscript No. IDIT-24-31714; **Editor assigned:** 26-Feb-2024, PreQC No. IDIT-24-31714 (PQ); **Reviewed:** 11-Mar-2024, QC No. IDIT-24-31714; **Revised:** 18-Mar-2024, Manuscript No. IDIT-24-31714 (R); **Published:** 26-Mar-2024, DOI: 10.35248/2593-8509.24.9.174

Citation: Benk E (2024) Treating Allergies with Immunotherapy: Benefits and Risks. Immunol Disord Immunother. 9:174.

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Recent advances and future directions

Recent advances in immunotherapy have focused on improving its safety and efficacy. For example, researchers are exploring the use of adjuvants substances that enhance the body's immune response to an allergen to reduce the required dose and frequency of treatment. Additionally, new delivery methods, such as epicutaneous immunotherapy (*via* a skin patch), are being investigated to improve patient compliance and reduce the risk of systemic reactions. Biomarkers are also being studied to better predict which patients will respond favorably to immunotherapy, potentially allowing for more personalized treatment plans. Furthermore, combining immunotherapy with other treatments, such as biologics that target specific pathways

in the allergic response, may enhance overall effectiveness. Immunotherapy represents a powerful tool in the management of allergies, offering the potential for long-term relief and disease modification. Its benefits, including the reduction in symptom severity and medication use, significantly improve patients' quality of life. However, the risks and challenges, such as adverse reactions, time commitment, and cost, must be carefully considered. As research continues to advance, immunotherapy is likely to become even more effective and accessible, offering hope for millions of allergy sufferers worldwide. For those considering immunotherapy, a thorough discussion with an allergist is essential to weigh the potential benefits and risks and to develop a treatment plan tailored to their specific needs.