Oral immunotherapy for children's peanut allergy moves a step closer

January 29 2014

After 6 months of OIT, 84-91% of the children could safely tolerate daily ingestion of 800 mg of peanut protein (roughly the equivalent of five peanuts), at least 25 times as much peanut protein as they could before the therapy.

"This treatment allowed children with all severities of peanut allergy to eat large quantities of peanuts, well above the levels found in contaminated snacks and meals, freeing them and their parents from the fear of a potentially life threatening allergic reaction. The families involved in this study say that it has changed their lives dramatically", explains study leader Dr Andrew Clark from Cambridge University Hospitals (which includes Addenbrooke's and the Rosie Hospitals) in the UK.

Peanut allergy is the most common cause of severe and life-threatening allergic reactions related to food. Currently the only way to prevent severe reactions from occurring in children with a peanut allergy is to avoid foods that contain peanuts. Unfortunately using this approach, accidental reactions are common, with yearly incidences of 14-50%.

In the first part of the STOP II trial, 99 children with varying severities of peanut allergy, aged 7 to 16 years, were randomly assigned to receive either 26 weeks of OIT using gradually escalating doses of peanut protein up to 800 mg/day, or peanut avoidance (the present standard of care). All the children then participated in a double-blind placebo-controlled oral food challenge during which they gradually consumed

increasing amounts of peanut protein under medical supervision to determine at what level they experienced allergic symptoms. In the second part, the control group was offered 26 weeks of OIT followed by a final food challenge.

After 6 months of therapy, 24 of 39 children (62%) who received OIT in the first phase passed the challenge and tolerated a daily dose of 1400 mg of peanut protein, roughly equivalent to 10 peanuts (an amount unlikely to be encountered accidentally), compared with none of those in the control group. After the second phase, 54% tolerated the challenge. Food-allergy specific quality of life scores also improved after OIT.

Although a fifth of those receiving OIT reported adverse events, most were mild with oral itching being the most common. Adrenaline was used to treat symptoms after only two OIT doses, both in the same patient who withdrew from the trial.

According to Dr Pamela Ewan, co-author and head of the allergy department at Cambridge University Hospitals, "We found that OIT is well tolerated and provides protection in most children with peanut allergy in this age group by raising the reaction threshold. This large study is the first of its kind in the world to have had such a positive outcome, and is an important advance in peanut allergy research. However, further studies in wider populations are needed. It is important to note that OIT is not a treatment people should try on their own and should only be done by medical professionals in specialist settings."

Writing in a linked Comment, Matthew J Greenhawt from the University of Michigan Food Allergy Center in the USA cautions that although the results are exceptionally promising, OIT remains experimental and is years away from routine clinical use, "OIT is not ready for clinical use until the short-term effects have been comprehensively proven, and the long-term side-effects, mechanism of

action, and outcomes are known...It is unknown if OIT produce lasting tolerance, a key outcome… Investigative groups need time to refine protocols, revalidate data, understand the mechanisms of OIT, and minimise adverse effects. This must be done without, and minimise adverse effects. This must be done without added pressure or heightened expectations to quickly produce a marketable therapy."

More information: www.thelancet.com/journals/lan … (13)62301-6/abstract

Provided by Lancet