Study of induction of Tolerance to Oral Peanut: a randomised controlled trial of desensitisation using peanut oral immunotherapy in children (STOP II)

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Plain English summary

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Peanut allergy is a common disease in developed countries, affecting up to 1% of children in the UK, France, Germany and the USA. Peanut allergy is most often diagnosed in children, but it can appear for the first time at any age. Reactions vary in severity, and include mouth itching, nausea, stomachache and vomiting. Itchy nettle sting-like rashes and swelling also occur. More serious reactions involve wheezing, throat tightness and shortness of breath, requiring hospital treatment. It is not possible to predict who is at most risk of a severe reaction.

Peanut allergy does not usually resolve and most children will grow into adults with peanut allergy. Currently, the best treatment is peanut avoidance, and patients manage this with varying success. Accidental reactions happen frequently, and families have to carry emergency medication all the time, including injectable adrenaline.

The quality of life (QoL) of families with children who have a peanut allergy is reduced because of constant fear of reactions and the social limitations they put in place to keep their children safe (e.g. not eating out).

Based on the encouraging results of a small pilot study, we undertook a randomised trial of a new treatment: peanut oral immunotherapy (OIT). This involved children eating increasing amounts of peanut under supervision, starting with a tiny amount and building up to the equivalent of five peanuts a day.

The results showed that a high proportion (80–90%) of peanut-allergic children could eat 4–6 peanuts regularly after treatment and that many (50–60%) can eat the equivalent of up to 10 peanuts at a time (primary outcome measure of the trial). At least in the short term (up to 2 years), children need to continue eating peanuts on a daily basis to maintain desensitisation. Common side effects of treatment included mouth itching and stomachache. Wheeze occurred after less than 1 in 200 doses and was treated with asthma inhalers. This treatment protects children from accidental ingestion and they can relax their avoidance practice. There was a significant improvement in QoL measure by a standardised questionnaire.

Peanut OIT is a promising novel treatment that appears to work well and with acceptable side effects. As this is the first study of its type, the findings are relevant to the population studied, but will require confirmation using other patient subgroups. Because of the complex treatment and monitoring involved, OIT should be restricted to specialist centres. This technique may be applicable to other foods and further studies are warranted.

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This report

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