

Allergen immunotherapy: 100 years on

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Leonard Noon published his article on 'Prophylactic inoculation against hayfever' in the *Lancet*, June 11th 1911 [1]. William Frankland who worked closely with Noon's colleague John Freeman, also from St Mary's hospital, published the first randomised controlled trial in 1954 [2]. This study of subcutaneous grass pollen immunotherapy established the scientific basis for modern clinical trials of immunotherapy. Frankland, a founding member of the British Society for Allergy and Clinical Immunology (BSACI) remains active within the allergy community in the UK and continues to maintain our link with 100 years of allergen immunotherapy, as celebrated in this themed issue of the Society's journal.

In this month's issue, the Standards of Care Committee of the BSACI presents guidelines for immunotherapy for rhinitis and the diagnosis (pp. 1177–1200) and management of hymenoptera venom allergy (pp. 1201–1220). Reviews on specific areas of interest include a Cochrane systematic review and meta-analysis of sublingual immunotherapy for allergic conjunctivitis (pp. 1263–1272), articles on controversial areas such as the efficacy and safety of immunotherapy for asthma (pp. 1247–1255) and the use of immunotherapy in children (pp. 1256–1262) and updates on the mechanisms of immunotherapy against venom (pp. 1226–1234) and inhalant allergens (pp. 1235–1246).

There follows a series of original articles that highlight evolving novel areas, particularly oral immunotherapy for food allergy (OIT). Two uncontrolled trials addressed OIT for peanut (pp. 1273–1281) and egg allergy (pp. 1289–1296). One 12 month randomised controlled trial in 2 year old children with milk allergy compared OIT with milk avoidance (pp. 1297–1304). Successful desensitisation was achieved in 90% whereas natural tolerance was observed in only 23% of the control group. Analysis of side effects revealed that 33% of actively treated children developed mild and 47% moderate reactions during OIT. These data, although encouraging, highlight the need for specialist supervision and further evaluation of alternative safer OIT regimens. Whereas OIT for food allergy appears able to achieve successful desensitisation, whether or not 'tolerance' is achievable (persistent benefit following discontinuation), as observed for inhalant allergen immunotherapy, remains to be tested.

One hundred years on, the conventional subcutaneous route with allergen extracts remains standard practice whereas sublingual immunotherapy is emerging as an effective and safe alternative. Novel approaches include the use of allergen peptides, modified recombinant allergens and the combination of allergens with adjuvants. Whether adjuvants alone (in the absence of specific allergen) might be efficacious is tested by Klimek and colleagues who report in this issue the results of the first phase IIb trial of a subcutaneous toll-like receptor 9 agonist packaged into virus-like particles, in adults with perennial mite allergy (pp. 1305–1312). As we celebrate the first 100 years of immunotherapy it is encouraging that such approaches are emerging, in order to improve efficacy whilst reducing the risk of IgE-mediated side effects for the benefit of allergy sufferers in the future.

References

- 1 Noon L. Prophylactic inoculation against hayfever. *Lancet* 1911; 1:1572.
- 2 Frankland AW, Augustin R. Prophylaxis of summer hayfever and asthma: controlled trial comparing crude grass pollen extracts with isolated main protein component. *Lancet* 1954; 1:1055.

Cover illustration: Photographs of Leonard Noon (1877–1913) on the left and John Freeman (1877–1962) on the right who 100 years ago pioneered the use of immunotherapy to treat allergic disease.