A rare case of food-induced urticaria to almond butter with tolerance to almond nuts

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Background: Tree nut allergy is one of the most well recognised and investigated food allergies. Skin prick, Specific IgE (with components) and oral challenge tests are frequently used to evaluate and eventually confirm nut allergy with high diagnostic certainty. There is a growing recognition however, of atypical unexpected allergy to foods despite reassuring investigations and diagnostic challenges.

Report: We report a case of a 23 year old male with previously diagnosed childhood primary peanut and sesame seed allergy. He had generally avoided all tree nuts since but reports oral itching symptoms on occasion when accidentally consuming almond. We investigated his almond allergy status. Almond skin prick test was 4mm (positive) and specific IgE was 0.88ku/L (positive); however the birch pollen Bet v1 (PR10) component was >100ku/L consistent with oral allergy syndrome. We proceeded to an oral challenge with almond nuts where he received over 15g in a supervised graded protocol and did not demonstrate any immediate reaction; effectively ruling out primary or IgE mediated allergy. However, he subsequently consumed almond butter at home with a quantity of around 5g and developed immediate generalised urticaria within 5 minutes of consumption. No other allergenic ingredients were identified in the almond butter and he was advised to avoid the almond butter but continue consuming the whole nuts.

Clinical Relevance of Report: Despite demonstrating tolerance to whole almond nuts in a supervised challenge this patient unexpectedly reacted to almond butter with features of true IgE-mediated immediate hypersensitivity. There is limited literature on these type of atypical reactions. It is hypothesised that the oils released in the cooking process of making almond butter contain a highly concentrated allergenic epitope that was previously hidden. It is advised to consider atypical reactions to nuts even if deemed safe, especially when in modified forms such as butter or oil.

Statement of Consent: The authors confirm that consent is given for presentation and publication.