ALLERGY

FORGOTTEN PAPERS: ALLERGY ORIGINS IN THE GUT

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Instead of highlighting the best paper in 2007, I decided to nominate now the most under valued paper in 2007. There are so many interesting (and probably highly important) studies that do not get enough initial attention and consecutively fail to enter the high citation track. Here is one of these papers that is as interesting as on the day of publication: Toll-Like Receptor 4 Signaling by Intestinal Microbes Influences Susceptibility to Food Allergy in JCI 2004.

> The mechanisms by which signaling by the innate immune system controls susceptibility to allergy are poorly understood. In this report, we show that intragastric administration of a food allergen with a mucosal adjuvant induces allergen-specific IgE … in mice lacking a functional receptor for bacterial LPS … Susceptibility to allergy correlates with a Th2-biased cytokine response in both the mucosal (mesenteric lymph node and Peyer's patch) and systemic (spleen) tissues … When the composition of the bacterial flora is reduced and altered by antibiotic administration … TLR4 wild-type mice become as susceptible to the induction of allergy as their TLR4-mutant counterparts. Both allergen-specific IgE and Th2 cytokine responses are reduced in antibiotic-treated mice in which the flora has been allowed to repopulate…

When starting allergy research, I learned that allergy originates in the nose (or lung or skin). Slowly it became a disease of the bone marrow. By now it seems to be largely originate in the gut, yea, yea.

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