

# PROBIOTICS AND THE SKIN HEALTH

## HOW PROBIOTICS CAN PREVENT/IMPROVE ATOPIC ECZEMA

More than ten years ago, a Finnish team from the University of Tampere has been the first to suggest the use of probiotics in the management of allergic diseases: “*Probiotic bacteria may promote endogenous barrier mechanisms in patients with atopic dermatitis and food allergy (...) by alleviating intestinal inflammation*” [1]. In 2000, another Finnish team from the University of Turku recommended “*Probiotics in the management of atopic eczema*” as stated in their publication’s title [2].

The major publication in this field has appeared on April 7<sup>th</sup> 2001 in the Lancet [3]. “*We gave Lactobacillus GG prenatally to mothers (...) and postnatally for 6 months to their infants. (...) The frequency of atopic eczema in the probiotic group was half that of the placebo group (23% versus 46%)*” [3]. Very interestingly, this trial has been followed-up regularly since, i.e. when the children became two year-old [4], four year-old [5], and seven year-old [6]. Striking results confirmed the long-term benefit: “*We demonstrated here that the overall risk for developing eczema during the first 7 years of life was significantly decreased in the Lactobacillus GG group in accordance with our earlier findings with shorter follow-up*” [6].

Besides this series of articles, several other studies supporting the administration of probiotics for alleviating atopic eczema have been published in major mainstream medical journals [7, 8], including a randomised controlled trial [9] and two double-blind placebo-controlled trials [10, 11]. In conclusion, “*The first clinical trials with probiotics (...) in the treatment of atopic eczema have yielded encouraging results. Experimental studies have found that probiotics exert strain-specific effects in the intestinal lumen, on epithelial cells and immune cells with anti-allergic potential*” [12]. Multiple synergistic mechanisms are considered to explain such a favorable impact on skin atopic disease: “*Degradation/structural modification of enteral antigens, normalization of the properties of aberrant indigenous microbiota and of gut barrier functions, regulation of the secretion of inflammatory mediators, and promotion of the development of the immune system*” [13].

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