ALLERGY, VITAMINS

VITAMIN D AS AN ADJUVANS TO SPECIFIC IMMUNOTHERAPY

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Despite the known allergy promoting effect of vitamin D in early childhood, there is mounting evidence that it may have beneficial effects during specific immunotherapy. A paper on “IL-10-inducing adjuvants enhance sublingual immunotherapy efficacy in a murine asthma model” by researchers from a French allergen company published now in Int Arch Allergy Immunol 2008;145:152-162 shows

Following stimulation with VitD3/Dex-pretreated DCs, CD4+ naÃ¨ve T cells exhibit a Treg profile. In contrast, a Th1/Treg pattern of differentiation is observed in the presence of DCs treated with L. plantarum. Both adjuvants significantly enhance SLIT efficacy in mice, in association with either induction of Foxp3+ Treg cells (for VitD3/Dex) or proliferation of OVA-specific T cells in cervical LNs (for L. plantarum). Conclusions: Both VitD3/Dex and L. plantarum polarize naÃ¨ve T cells towards IL-10-expressing T cells, through distinct mechanisms.

More or less at the same time there is a report that “1alpha,25-dihydroxyvitamin D3 potentiates the beneficial effects of allergen immunotherapy in a mouse model of allergic asthma: role for IL-10 and TGF-beta” published in J Immunol 2008;180:5211-5222

In this model, the dose response of allergen immunotherapy 10 days before OVA inhalation challenge shows strong suppression of asthma manifestations at 1 mg of OVA, but partial suppression of bronchoalveolar lavage eosinophilia, IgE up-regulation, and no reduction of AHR at 100 Âµg. Interestingly, coadministration of 10 ng of 1,25(OH)2D3 with 100 Âµg of OVA immunotherapy significantly inhibited AHR and potentiated the reduction of serum OVA-specific IgE levels, airway eosinophilia, and Th2-related cytokines concomitant with increased IL-10 levels in lung tissues and TGF-Î² and OVA-specific IgA levels in serum.

Blowing out the fire with gasoline seems to work at least in the mouse model.

But will it also work in humans? Both papers do not cite earlier research, to be exact in the Journal of Allergy 1934;5:541 (the JACI precursor):

The Journal of Allergy

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Original Articles

THE TREATMENT OF HAY FEVER AND ASTHMA WITH VIOSTEROL OF HIGH POTENCY* †

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SUMMARY

1. A study has been made of 212 patients suffering from seasonal hay fever and asthma. Of these, 68 were treated with viosterol 10,000X and 144 were treated with viosterol and pollen injections.

2. Of the first group, 82.4 per cent experienced definite significant relief; 96.5 per cent of the second group had comparable degrees of relief. Thus 92 per cent of the entire series were definitely and significantly relieved.

3. The combined treatment of viosterol and pollen injections is more effective than either one alone.

4. The nature of the protective action of viosterol is undetermined, but is under further investigation. It does not seem to be related to the calcium mobilizing power of viosterol.

5. The optimum dose of 10,000X viosterol along with pollen injection for pollen sensitivity is between 2 and 10 drops daily, varying with the susceptibility of the individual rather than with the severity of the symptoms.

The viosterol 10,000X used for this work was supplied for experimental purposes only and is not at present commercially available.

Although a placebo group is missing, this could point towards useful co-effects. It is also in-line with a preceding JAMA paper of the same authors on 6 ragweed sensitive patients (1932; 2:105-109).

An ongoing study in Poland will show, yea, yea.