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EDITORIAL

MEDITERRANEAN DIET AND ASTHMA: TIME FOR CLINICAL TRIALS IN CHILDREN

If one surfs the Pubmed site using both the keywords ''Mediterranean diet'' (Med diet) and ''asthma'', no paper can be found before 2007, when the first report from our own group was published in Thorax[1]. After that more than 60 articles are retrieved. The great majority of them come from Mediterranean areas, as expected; and the evidence points at a weak, albeit significant, protective association between Med diet and asthma prevalence as a meta-analysis shows more recently[2]. Furthermore, there is some evidence that Med diet can help controlling asthma in patients with the condition[3,4]. Additionally, it has been showed that inflammation markers such as exhaled nitric oxide (eNO) are reduced in asthma patients when they are put on a Med diet supplemented with fatty fish [5]. In summary, it can be concluded that eating a Med diet is a healthy habit both to prevent and to control asthma.

In the present issue of Allergologia et Immunpathologia we publish a new report from a Greek group[6] which shows the effect of Mediterranean diet on the levels of certain inflammatory markers (namely IL-4, IL-17 and IL-33) in a group of asthmatic children as compared con controls. Although this study could not find any relationship between Med diet consumption and asthma prevalence (probably due to a low sample size -just a total of 70 children) it did find that there was a negative and significant correlation between KIDMED score (a way to measure Med diet intake) and IL-4 and IL-17, in the group of asthmatic children. As the authors discuss, and as it has been shown in animal models[7], some components of Med diet have a protective effect o allergic inflammation, this including a reduction of IL-4 (a well-known marker of T helper 2 - Th_2- activation) and IL-17 which has a role in neutrophilic asthma. An interesting finding is the positive correlation between KIDMED and IL-33 (apparently in the opposite direction expected). This cytokine, originally described as an inducer of TH_2 response, seems to be also a stimulus to group 2 innate lymphoid cells (ILC2s), regulatory T (Treg) cells, TH_1 cells and others[8]. Both Treg and ILC2s are part of the tissue repair process and may well be part of the overall inflammatory (not only allergic) protection provided by Med diet. Thus, a positive correlation between KIDMED and IL-33 might be interpreted as positive for reducing asthma inflammation and tissue repair.

As the authors conclude ''Med diet can modulate the production of the main inflammatory mediators of asthma, in asthmatic children''[6]. However well designed and powerful clinical trials in children are still lacking. To the best of our knowledge, the first and very recent one [5] showed that Med diet supplemented with two fatty fish meals per week can reduce airway inflammation in asthmatic children (as measured by eNO). However, more trials are needed to strengthen the evidence which may lead to considering more precise dietary recommendations[9], including Med Diet components such as olive oil[10], in asthma management guidelines for children.

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