Nutrition can modify age-related inflammation according to expert report

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Ageing is characterised by increased levels of inflammatory markers in the bloodstream, a phenomenon that has been termed "inflammageing." This type of enhanced inflammation tone, also designated as low grade inflammation, is associated with age-related decline of many functional systems and with increased risk of sickness, poor well-being and mortality. In a just published article in Ageing Research Reviews by ILSI Europe, a group of experts reviewed and documented evidence for the protective role of diets and foods as a strategy to control inflammageing and to boost healthy ageing.

Inflammation, a normal component of host defence, is beneficial as an acute, transient reaction to harmful conditions, facilitating the maintenance of host physiology. However, chronic and low grade inflammation (LGI) is detrimental for many tissues and organs. Ageing is characterised by an increase in the concentration of inflammatory markers in the bloodstream and this is associated with increased risk of disease and poor well-being. Prevention or control of inflammageing therefore seems to be an attractive target effect for healthy food or food ingredients. In a just published article commissioned by the ILSI Europe Nutrition, Immunity and Inflammation Task Force, experts determine the potential drivers and the effects of the "inflamed" phenotype observed in the elderly, and discuss the possibility of modulating LGI in the ageing population by applying nutritional strategies.

"With an increasing number of older people in our populations we need to identify targets in order to prevent age-related functional decline so

that people can live a healthier and happier life. This report clearly identifies the role of low grade inflammation in the ageing process. Further it highlights several nutrition-related strategies that might prevent, control or even reverse the inflammation of ageing.", commented Prof. Philip Calder, University of Southampton (UK).

Slowing, controlling or reversing LGI is likely to be an important way to prevent, or reduce the severity of age-related functional decline and the onset of unfavourable health conditions. Since microbial imbalance plays a role in sub-optimal human metabolism, and is linked to impaired immune and brain functions associated with ageing, there is probably a key role for nutrition in influencing health and well-being through microbiota-mediated effects. In addition, many dietary components may affect inflammation directly. The experts provide an overview of the evidence that exists in the elderly for omega-3 fatty acid, probiotic, prebiotic, antioxidant and polyphenol interventions as a means to influence inflammageing.

More information: Philip C. Calder et al. Health relevance of the modification of low grade inflammation in ageing (inflammageing) and the role of nutrition, *Ageing Research Reviews* (2017). DOI: 10.1016/j.arr.2017.09.001

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