



HEALTH SUPPLEMENTS INFORMATION SERVICE (HSIS) REAFFIRMS THE SAFE AND POSITIVE USE OF ANTIOXIDANT VITAMINS

In response to a meta-analysis and review article regarding the antioxidant supplements beta carotene, vitamin A, and vitamin E, published in the Journal of the American Medical Association (JAMA) on 28th February, the Health Supplements Information Service (HSIS) feels that a balanced perspective needs to be added to this debate so that consumers in the UK are not misled.

Positive evidence for antioxidants in cardiac health:

- ❑ The Cambridge Heart Antioxidant Study - published in the Lancet¹, this report concluded that vitamin E doses of 400 to 800 IU per day, in people with atherosclerosis, reduced the risk of heart attack by 77 per cent.¹
- ❑ Another report - titled "Multivitamin Use and Mortality in a Large Prospective Study" - showed that out of over 1 million participants, those adults who used vitamin E, or other antioxidant vitamins, in combination with a daily multivitamin had a 15 per cent lower risk of dying from heart disease or stroke than those who did not take vitamins².
- ❑ Blood levels of the antioxidant nutrients vitamins A, C, and E, and beta-carotene are reported to be lower in people with a history of heart attack, compared with healthy individuals³
- ❑ The results from the Physicians Health Study 2 (PHS2) indicated apparent benefits of beta-carotene supplementation on subsequent vascular events among 333 men with prior angina or revascularisation.
- ❑ With regards to the safety of beta-carotene for long-term use, the PHS2 results indicated that beta-carotene supplementation (50mg on alternate days) had no significant detrimental effects on cardio-vascular disease during more than 12 years of treatment and follow-up⁴

NOTE: Smokers are advised to use beta-carotene supplements with caution⁵

Commenting on behalf of HSIS, Pamela Mason notes: "The truth is that many clinical trials *do* support the efficacy and safety of antioxidant vitamins such as Vitamin A, E and beta-carotene, particularly in cardiac health, when combinations of antioxidants have been used.

"With reference to this meta-analysis and the review article just published, it is important to note there is nothing new in this study. A **very similar meta-analysis** has been conducted **before with similar results**. Like the previous meta-analysis, this one has a **fatal flaw** - collating data from both primary and secondary prevention trials. A primary prevention trial is one where healthy people are studied. The outcome (mortality in this case) is much lower than in the secondary prevention trials. For this reason, large numbers of people are needed for primary prevention trials, whereas fewer are required for secondary prevention trials.

Secondary prevention studies look at the reduced risk of mortality of people WITH EXISTING DISEASE – usually this is cardiovascular disease, as cancer, the other big killer does not lend itself so easily to this type of study for many reasons. As a result, the meta-analysis was devised to compare – **not to include disparate groups, which this latest meta-analysis has done.**

"From a nutritional point of view, the use of supplements in primary prevention trials is preventative nutrition – i.e. to prevent illness. In secondary prevention trials the use of nutritional intervention is aimed as a therapeutic effect – to reverse extensive existing illness. While the use of single supplements in primary prevention may have some merit, this is not so in secondary prevention trials. How sensible scientists can suggest that a modest intervention of a single antioxidant supplement (which is readily available in food), can have a major effect in reversing life-threatening pathology, where patients already have advanced cardiovascular

disease, is ridiculous. Such an intervention would be a 'drop in the ocean' against such severe conditions.

"In my view, the results of these mixed-sample meta-analyses are worthless.

"A fundamental aspect of a proper meta-analysis is that the studies pooled together for analysis should be comparable. There is no way that the subjects in the studies chosen for this meta-analysis were comparable. Apart from the diversity in their health, already discussed, people of all ages, smokers and non-smokers were included. And it does not end here. There were huge sources of variability in the antioxidants themselves, their combinations and doses in the studies selected. Even the duration of the intervention varied enormously from a 1-day to a 12-year study. Despite this, when all the studies were put together, the authors found no effect of mortality. It was only when they used their own criteria for judging a 'good' or a 'bad' trial and threw out those that they considered 'bad', that any effect on mortality was seen. This kind of data manipulation is regrettable – with so many imponderables any results are worthless and only serve to confuse the public.

In conclusion Pamela highlights: "Vitamin, mineral and dietary supplements not only have proven health benefits, they are essential to the maintenance of good health and can help bridge the nutritional gap for many people in the UK whose diets are often lacking in essential nutrients."

-ENDS-

References

¹ Cambridge University scientists conducted the research and published their findings in the March 23, 1996 issue of the Lancet.

² Published in the Jul 15 2000 issue of the American Journal of Epidemiology, five researchers from the Atlanta centre reported on their research into causes of death among more than one million adults.

³ Singh RB, Niaz MA, Sharma JP, et al. Plasma levels of antioxidant vitamins and oxidative stress in patients with acute myocardial infarction. Acta Cardiol 1994;49:441–52

⁴ Christen WG; Gaziano JM; Hennekens CH. Design of Physicians' Health Study II--a randomized trial of beta-carotene, vitamins E and C, and multivitamins, in prevention of cancer, cardiovascular disease, and eye disease, and review of results of completed trials. Ann Epidemiol 2000 Feb;10(2):125-34

⁵ There is some evidence to suggest that beta-carotene supplementation may exacerbate the detrimental effects of smoking (Chem Res Toxicol 1999 Jun; 12(6): 535-43)

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