

Reviewer's report

Title: Antioxidant treatment in chronic diseases

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Reviewer: philip lazarovici

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The paper of Brambilla et al., provides an updated review on antioxidants treatment in chronic diseases. This manuscript address a timely issue which is under tremendous dispute regarding the beneficial therapeutic effect of antioxidants supplementation by food to alleviate a wide variety of diseases. The review is stressing the physiological balance between endogeneous and exogeneous antioxidants which must be considered upon antioxidants supplementation in order to preserve the physiological redox homeostasis in the patient. The reasoning and flow of the review is very nice.

I would like to provide several discretionary comments to the authors:

1. The title is stressing "chronic diseases" while the review is addressing only several immunological, cancer and neurodegenerative disorders- i propose to change the title!

2. Today strategies to measure oxidative stress are limited in clinical settings; the most reliable markers are malondialdehyde and F2-isoprostane (Grune and Berger, Curr. Opin Clin. Nutr. Metab Care 2007, 10, 712-717); i suggest to add this aspect on the need of markers of oxidative stress to the review

3. Inadequate intake of vitamins may lead to suppressed immunity (Wintergerst et al., Ann. Nutr. Metab. 2007, 51, 301-323)- please add to review

4. several recent meta-analyses of antioxidants supplementation were published and i recommend to address in the manuscript:

a. Bardia et al., Mayo Clinic Proc. jan. 2008, 83(1), 23-24; (beta carotene supplementation appeared to increase cancer incidence and mortality...)

b. Slatore et al., American Journal of Respiratory and Critical Care Medicine vol 177 pp524-530, 2008 (Supplemental multivitamins, vitamin C, E and folate were not associated with a decreased risk of lung cancer...)

c. Bjelakovic et al., JAMA, 297, 842-857, 2007 (Treatment with beta carotene, vitamin E, A may increase mortality...)

b.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a

statistician.