Med Princ Pract 2017;26:397
DOI: 10.1159/000477304

Antioxidant Supplements and Gastrointestinal Diseases

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Dear Editor,

I read with interest the article entitled “Antioxidant Supplements and Gastrointestinal Diseases: A Critical Appraisal” by Khan et al. [1]. The authors made us two important recommendations regarding antioxidant-based treatment in patients with inflammatory bowel disease (IBD). The first recommendation was that in IBD patients allopurinol and possibly curcumin should be used in combination with the current treatments using mesalamine, azathioprine, sulfasalazine, and steroids. The second recommendation was that the combined therapy trials should be considered using the current treatments and the following antioxidants: *Boswellia*, *Artemisia*, *Tripterygium wilfordii*, fish oil, and chamomile. Studies on more promising antioxidants that include Chinese and Ayurvedic medicine-based antioxidants should be replicated [1]. The traditional hypothesis is that antioxidant supplements simply scavenge the production of oxidation.

The authors also emphasized the heterogeneity of studies reporting on the effects of antioxidant supplements in gastrointestinal (GI) diseases. There could be many reasons for the heterogeneity: the definitions of different GI diseases overlap, and the diagnoses, etiologies and pathophysiologies possibly do so too. The consequence is that different researchers use a variety of indices to

monitor the efficacy of the antioxidants, and some of the methods are quite subjective [1]. Also, a lack of uniformity in the studies following the Cochrane criteria for clinical trials adds to the confusion [1]. The variety of indices and lack of uniformity in research demonstrate that a close monitoring of reactive oxygen metabolite (ROM) release is required. Thus, several easy-to-use techniques have been developed, including histochemistry [2] and colorimetric assays [3, 4], which are employed in studies of patients with IBD, but all lack sufficient sensitivity and specificity [1].

In a recent study [5] regarding oxidative stress, it was reported that the thiol/disulfide homeostasis status had critical roles in antioxidant protection, detoxification, apoptosis, and cellular signaling mechanisms. Hence, the thiol/disulfide ratio could be used for evaluation of response to therapy and to get insight into the pathophysiology of the disease.

Based on this review [1], further research is needed to investigate the functional properties of oxidative stress and their effect on the treatment of IBD. Additional studies might lead to the application and development of an antioxidant therapy for IBD.

References

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