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Iron supplements: the quick fix with long-term consequences

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Abstract

Co-supplementation of ferrous salts with vitamin C exacerbates oxidative stress in the gastrointestinal tract leading to ulceration in healthy individuals, exacerbation of chronic gastrointestinal inflammatory diseases and can lead to cancer. Reactive oxygen and nitrogen species (RONS) have been ascribed an important role in oxidative stress. Redox-active metal ions such as Fe(II) and Cu(I) further activate RONS and thus perpetuate their damaging effects. Ascorbic acid can exert a pro-oxidant effect by its interaction with metal ions via a number of established RONS generating systems which are reviewed here. Further studies are required to examine the detrimental effects of nutraceuticals especially in chronic inflammatory conditions which co-present with anaemia.