Antioxidant Treatment

(Medline Express articles) Article No 16 - Antioxidant therapy for recurrent pancreatitis: biochemical profiles in a placebo-controlled trial. AUTHORS: Uden-S; Schofield-D; Miller-PF; Day-JP; Bottiglier-

T; Braganza-JM. Aliment-Pharamacol-Ther. 1992 April.

The usefulness of micronutrient antioxidant therapy for recurrent (non-gallstone) pancreatitis has recently been endorsed by a 20-week double-blind double-dummy cross-over trial in 20 patients. Treatment was delivered as two types of tablets, providing daily doses of 600 micrograms organic selenium, 900 i.u. beta-carotene, 0.54g vitamin C, 270 i.u. vitamin E and 2g methionine. We report antioxidant profiles in blood samples collected before entry, at the cross-over stage and upon completion of the trial. Baseline serum concentrations of selenium, beta-carotene and vitamin E in the patients were significantly lower than in healthy controls, were unaltered by placebo and normalised by active treatment, but reverted to basal values in the subgroup that received placebo subsequently. The baseline serum concentration of a free radical marker--the 9-cis--, 11- trans isomer of linoleic acid--was significantly higher in the patients than in controls, fell inexplicably in the placebo phase and fell further upon active treatment. Discriminant analysis eliminated the overlap in free radical marker and selenium concentrations between control sera on the one hand and baseline or post placebo samples from the patients on the other: antioxidant treatment normalised the relationship between these biochemical parameters. Subnormal baseline serum levels of S-adenosylmethionine drifted downwards upon active treatment whereas a sharp rise was noted when a relapse of pancreatitis occurred during the placebo phase. The results confirm that adequate exposure to antioxidants in the active treatment phase was associated with amelioration of oxidative stress, and that there was no residual effect 10 weeks after switching over to placebo treatment. Furthermore, the paradoxical behaviour of S-adenosylmethionine may imply that the beneficial effect of micronutrient antioxidants in recurrent pancreatitis is linked with preservation of the methionine trans-sulfuration pathway pancreatitis acinar cells.

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