

Effect of antioxidant supplementation on surrogate markers of fibrosis in chronic pancreatitis: a randomized, placebo-controlled trial

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Abstract

Objectives: This study aimed to determine the effect of antioxidant (AO) supplementation on surrogate markers of fibrosis in patients with chronic pancreatitis (CP).

Methods: In a randomized, placebo (PL)-controlled trial, patients with CP were randomized to groups that were given PL or AO for 3 months. Outcome measures were change in serum levels of transforming growth factor β 1 and platelet-derived growth factor AA (PDGF-AA) (primary outcome) as well as blood markers of oxidative stress (thiobarbituric acid-reactive substances) and AO status (ferric-reducing ability of plasma) (secondary outcome). Pain relief and analgesic requirement was also recorded.

Results: Patients (n = 61; mean [SD] age, 35.2 [10.0]; male patients, 43) were assigned to AO (n = 31) and PL (n = 30) groups. The median (range) percent reduction from baseline to 3 months in levels of PDGF-AA (17.1% [-25.3% to 88.7%] vs 2.8% [-243.1% to 30.2%]; P = 0.001), transforming growth factor β 1 (P = 0.573), and thiobarbituric acid-reactive substances (P = 0.207) as well as percent increment from baseline to 3 months in ferric-reducing ability of plasma (P = 0.003) were higher in the AO group compared with the PL group. Proportion of patients who had both reduced PDGF-AA and reduced pain was greater in AO as compared with PL group (17/31 vs 9/30, P = 0.05)

Conclusions: Reduction in markers of fibrosis (PDGF-AA) translated into clinical outcome (reduction in pain and analgesic requirements) in those supplemented with AOs in CP (trial registration, CTRI/2011/05/001747).

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