

# Abstract

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## Antioxidant status, lipid peroxidation and nitric oxide in fibromyalgia: etiologic and therapeutic concerns.

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**PURPOSE:** We proposed to assess the oxidant/antioxidant status, lipid peroxidation and nitric oxide (NO) in untreated fibromyalgia (FM) patients and controls.

**METHODS:** The effect of amitriptyline (A, 20 mg daily) and sertraline (S, 100 mg daily) treatment on patients' superoxide dismutase (SOD), xanthine oxidase (XO), adenosine deaminase (ADA) enzyme activities, thiobarbituric acid reactive substances (TBARS) and NO levels was investigated. Thirty female patients with primary FM and age-matched 16 healthy female controls were included.

**RESULTS:** Patients received an 8-week course of treatment with either A or S. FM patients had higher serum levels of TBARS (particularly malondialdehyde) and lower levels of nitrite compared to controls whereas enzyme activities were similar. A and S significantly improved Fibromyalgia Impact Questionnaire (FIQ) pain scores, Hamilton anxiety and depression rating scales. But neither A nor S had significant effects on measured oxidative stress parameters, except SOD activity that was significantly reduced after S treatment. Total myalgic scores negatively correlated with XO activity, and depression scales negatively correlated with levels of TBARS.

**CONCLUSION:** Our results indicate that patients with FM are under oxidative stress. These findings represent a rationale for further research assessing the effect of free radical scavengers or antioxidant agents like vitamins and omega-3 fatty acids on peripheral and central mechanisms in FM.

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