

## ABSTINENCE IN ALCOHOLICS INDUCES A FLARE-UP OF OXIDATIVE STRESS: EFFECT OF A POTENT ORAL ANTIOXIDANT

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It has been shown that an increased metabolic activity of the microsomal ethanol-oxidizing system may persist independently of the constant intake of alcohol. This phenomenon might perpetuate a pro-oxidative condition during abstinence. The aim of this study was to address the issue of oxidative phenomena occurring in the early recovery phase of alcohol withdrawal in alcoholics while testing a novel acid- and heat-resistant oral antioxidant. Forty-six alcoholics (>80g to <120g/day) and known dietary intake were allocated into 2 groups and given 9g/day for one week of either placebo or Bionormalizer which is obtained by biofermentation of medicinal plants (Carica Papaya, pennisetum purpureum, Sechium edule, Osato Research Foundation, Gifu, Japan). Patients complied with stopping alcohol on the day they entered the treatment. Daily blood sampling was obtained during one week for routine tests, alcohol level and to check plasma and erythrocyte (RBC) levels of MDA, SOD, glutathione peroxide (GPX) and hydroperoxide level. Groups were comparable as for baseline biochemical parameters and for antioxidant status ( $\alpha$ -tocopherol, ascorbic acid, selenium, MDA, SOD, hydroperoxide, GPX, RBC-MDA, RBC-SOD and RBC-GPX). Fifteen age- and gender-matched teetotaler subjects served as healthy controls. Bionormalizer supplementation prevented the early increase of plasma MDA observed in placebo group ( $p < 0.01$ ) while enabling a near-to-normal level of plasma and erythrocyte MDA by the 4<sup>th</sup> day. As compared to placebo group, Bionormalizer also prevented the significant drop of GPX ( $p < 0.05$ ) and the transient decrease of plasma SOD ( $p < 0.05$ ) compared to entry baseline values. Despite alcohol withdrawal, plasma lipid hydroperoxide level remained significantly elevated in the placebo group ( $p < 0.001$  vs healthy controls) but this phenomenon was rapidly improved by Bionormalizer in a time-course fashion ( $p < 0.01$ ). These data suggest that Bionormalizer is able to prevent the free radicals-mediated lipoperoxidative changes that occur soon after alcohol withdrawal and to fasten the recovery mechanisms, thing of potential clinical application.