MMJ

Malta Medical Journal, 2025; 37(3)

http://mmsjournals.org/index.php/mmj/45

ORIGINAL ARTICLE

Ubiquinone Supplementation Lessens the Negative Impacts of Occupational Lead Exposure by Reducing Inflammation

ABSTRACT

Lead occupational exposure has been increasingly reported by healthcare providers as an important challenge in industrial settings. Ubiquinone is a natural substance that has a role in the electron transport chain and oxidation-reduction pathway. In this study, we evaluated the effects of ubiquinone on inflammatory markers in workers who were exposed to lead in their routine daily work, as determined by measurement of lead levels in their blood at the start of the study, and compared to the control group. This study is a randomized, blind, placebo (control (two-month clinical trial. 61 people who had spent at least a year in an industrial environment were divided into two groups. In the ubiquinone group, 31 participants received 200 mg/day of ubiquinone-containing capsules for two months, and in the placebo group, 30 participants received a placebo capsule of starch daily for two months, At the end of the study, there was a withdrawal of one participant from the ubiquinone group and two participants from the placebo group. The inflammatory biomarker high-sensitivity C-reactive protein was measured using a turbidimetric immunoassay, while TNF-? and IL-6 plasma levels were determined using an ELISA. These measurements were done at the start of the study and after two months to compare the results of these parameters in the ubiquinone and placebo groups. After two months of ubiquinone supplementation, there was a statistically significant improvement in TNF- and IL-6 concentrations, but it did not affect CRP levels in the study participants.