

Oxidative Stress, Lipid Profile and Liver Functions in Depot Medroxy Progesterone Middle Egyptian Long Term Users

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Depot medroxy progesterone acetate (DMPA) is used as a long-acting contraceptive injection in more than 80 countries as 150 mg/3 months, in a single intramuscular injection (i.m). The present work was constructed to investigate the effects of DMPA on 80 middle Egyptian women classified into 4 groups, using the drug for one, two, three and four years, compared to a control married non-hormonally – treated group of matching age (N = 20). The drug showed a transient significant elevation of alanine aminotransferase activity (ALT) without an apparent effect on other liver indices namely total bilirubin (T.Bil) level, aspartate aminotransferase (AST) and alkaline phosphatase (ALP) activities. Only, low density/high density lipoproteins cholesterol ratio (LDLC/ HDLC) was gradually and non-significantly (ns) increased in comparison to control group. However, both total cholesterol (TC) and triglycerides (TG) were not affected by the drug. Gradually, lipid peroxide product; malondialdehyde (MDA) was significantly elevated in an increasing manner with a corresponding decrease in reduced glutathione (GSH), without change in blood nitric oxide (NO) levels.

It could be concluded that DMPA is considered as a safe contraceptive medication for selected women. Special care should be exercised for cardiovascular, hepatic and other patients more liable to harmful effects of free radicals. Alternatively, supportive medications are advisable for each exposed case to secure against the possible irreversible adverse effects of the drug by continuous use. In addition, annual re-evaluation is much more advisable despite the proved safety of the drug.