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# Cardio-protective role of Terminalia arjuna bark extract is possibly mediated through alterations in thyroid hormones

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## Abstract

Terminalia arjuna bark extract is believed to exhibit cardio-protective effects. In the present study we investigated the possible involvement of thyroid hormones in the amelioration of cardiac and hepatic lipid peroxidation (LPO) by a bark extract of the plant in albino rats. While L-thyroxine (L-T4) treatment increased the level of thyroid hormones, heart/body weight ratio as well as cardiac and hepatic lipid peroxidation, simultaneous administration of 21.42 and 42.84 mg/kg of the plant extract decreased the level of thyroid hormones and also the cardiac LPO, suggesting the possible mediation of the drug action through an inhibition in thyroid function. These effects were comparable to a standard antithyroid drug, propyl thiouracil (PTU). When the drug was administered to euthyroid animals, serum concentrations of thyroid hormones were decreased, whereas the hepatic LPO increased indicating a drug induced toxicity in euthyroid subjects. Although a suboptimal dose of the drug was found to be non-toxic to the liver, it appeared to be of no use, as it could neither affect the thyroid functions nor the cardiac lipid peroxidation. Since in euthyroid animals, thyroid hormones were decreased and hepatic LPO was increased, it is suggested that high amounts of this plant extract should not be consumed, as hepatotoxicity as well as hypothyroidism may be caused.

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