

Relationship between the Peroxidation of Leukocytes Index Ratio (PLIR) and the plasma antioxidant capacity after a single dose of a green tea extract supplement

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For the first time, we have evaluated the effect of a green tea extract (GTE) on the Peroxidation of Leukocytes Index Ratio (PLIR) in relation with Ferric Reducing Antioxidant Potential (FRAP). Venous blood samples were collected before, 30 minutes and 3 hours after a single dose of two capsules of a GTE (200mg×2). GTE consumption did not affect FRAP values. On the other hand, GTE significantly increased PLIR of monocytes and granulocytes 3 hours after treatment (*p<0.05), whereas a non significant increase was observed for PLIR of lymphocytes. Our study suggests that PLIR, in particular PLIR of granulocytes, where the differences between the oxidation induced by exogenous and by endogenous free radicals are more evident, reveals the pro-oxidant effect of GTE. This result is in agreement with the US Food and Drug Administration (FDA), the European Union's European Food Safety Administration (EFSA) and the Supplement Information Expert Committee (DSI EC) conclusions, that deny the healthy effect of GTE. Therefore, PLIR could be a sensitive marker of red-ox status.