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Pistacia lentiscus oil protects against rat lung fibrosis induced by Bleomycin and oxidative stress

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Abstract

We aimed in the present study to investigate the protective effect of Pistacia lentiscus oil against bleomycin-induced lung fibrosis as well as the involvement of oxidative stress in such protection. In this respect, adult male Wistar rats were used and divided into three groups of twenty each: control (NaCl, 0.9%), bleomycin, and bleomycin (4 mg/kg b.w.) + P. lentiscus oil (3 g/kg, b.w.). Animals were pretreated for 30 days before the induction of fibrosis by bleomycin and 1 weak after the induction of fibrosis. Chemical analysis by gas chromatography showed that flexed oil is riech on Linoleic and palmitic acids (70.6 and 24.7%, respectively). Our data demonstrated that P. lentiscus oil protected against bleomycin-induced fibrosis as evidenced by TGFβ immunostaining increase in lungs fibrocytes as well as inflammatory infiltrate. We also showed that acute bleomycin-induced fibrosis was accompanied by an oxidative stress in lung tissue as assessed by an increase of lipid peroxidation as well as antioxidant enzyme activities depletion such as superoxide dismutase (SOD) and catalase (CAT). More importantly, P. lentiscus oil treatment reversed all bleomycin-induced oxidative stress parameters disturbances. In conclusion, we suggest that P. lentiscus oil had potent protective effects against bleomycin-induced fibrosis due in part to its antioxidant properties.

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