

## POTENTIAL PROTECTIVE ROLE OF *XANTHOPARMELIA STENOPHYLLA* LICHEN ACETONIC EXTRACT IN DOXORUBICIN-INDUCED CARDIOTOXICITY IN RATS

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Lichens are a unique symbiotic community of fungi (mycobiont) and algae (photobiont). Although lichens are used in traditional medicine and the effects of some of the secondary metabolites have been studied, there is insufficient data on the cardioprotective effects of lichens. The aim of this study was to evaluate the effect of acetonc extract of *Xanthoparmelia stenophylla* lichen on doxorubicin-induced cardiotoxicity in rats.

The lichen sample was collected on Stara Planina. Acetone extract of lichen *Xanthoparmelia stenophylla* (XSA) was prepared by cold maceration. The study was conducted on 40 male Wistar albino rats. The extract was administered orally at a dose of 125 mg/kg for 28 days. After 28 days, doxorubicin was administered intraperitoneally at a cumulative dose of 15 mg/kg. Three days after doxorubicin administration, hearts were isolated and subjected to *ex vivo* examination on a Langendorff apparatus. Blood and coronary venous effluent samples were also collected in order to determine the markers of oxidative stress by spectrophotometric method.

Administration of XSA at a dose of 125 mg/kg for 28 days leads to the preservation of cardiac function in a model of doxorubicin-induced cardiotoxicity. Also, a reduction in cardiac oxidative stress can be observed in treated animals compared to the animals not treated with XSA.

Our results showed that XSA exhibits cardioprotective and antioxidant activity, which indicates the potential that XSA or some of its ingredients can potentially be used as cardioprotective agents.

**Keywords:** *Xanthoparmelia stenophylla*; Lichen, Doxorubicin; Heart; Oxidative stress; Rats.