

Hepatotropic, antioxidant and antitoxic action of amaranth oil

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ABSTRACT

Background: It is our opinion that amaranth seed oil's properties merit further study due to their high quantity of squalene. Squalene has been shown to have antitoxic, antioxidant, and hepatotropic properties. The liver is one of the most important organs in the human body, and as a filtering organ, it is subjected to many toxic compounds and free radicals. Thus, protecting the liver with an antioxidant and antitoxic compound could offer significant benefits.

Objective: In the present study we have evaluated the antitoxic, antioxidant, and hepatotropic (hepatoprotective) effects of amaranth oil acquired via a patented pressing method. Rats were treated with amaranth oil, a comparative compound, or a control compound and then subjected to various toxic, oxidizing, and other compounds in order to examine amaranth oil's effects.

Results: Amaranth oil was found to have a positive and dose-dependent effect both *in vivo* and *in vitro*. Amaranth oil's hepatoprotective activity was confirmed by both biological and morphological examination. This study suggests that amaranth oil acts to prevent and reduce CT damage in liver tissue. This was especially the case in doses of 300 mg/kg, proved both by normalization of hepatic ferments-markers indexes and morphological examinations.

Conclusion: The amaranth oil acquired via a patented pressing method possesses antitoxic and antioxidant activity. In this connection, the amaranth oil can be recommended for prophylaxis of toxic and drug-induced liver lesions and as a component of the functional food and dietetics of various diseases.

Keywords: antioxidant activity, free-radical oxidation, hypoxia, erythrocytes hemolysis, squalene, amaranth oil, hepatoprotector, hexenalum sleep, toxic hepatitis