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The Inhibitory Effects of Chrozophora tinctoria Extract on Benzoyl peroxide - promoted skin carcinogenesis

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Objectives: Chrozophora tinctoria is naturally occurring annual plant, used as a dyeing substance and traditionally it is used for the treatment of warts. In this study we attempt to evaluate the inhibitory effect of Chrozophora tinctoria on mouse skin tumors. **Methods:** Female Albino Swiss mice were divided in to different groups (each group 20 animals). Tumor initiation was achieved by a single topical application of 7, 12-Dimethylbenze (a) anthracene (DMBA) (40 µg/100 µl acetane/mouse). After 7 days, tumor promotion was begun by twice-weekly topical application of Benzoyl peroxide (BPO) (20 mg/300 µl acetone/mouse) for a period of 32 weeks. Also before 4 hours of DMBA application a group of animals received a single topical dose of chrozophora tinctoria extract (10 mg/gr carbopol gel/mouse). During this period, the animals were observed for tumor incidence. **Results:** There were higher yields of tumors in those animals receiving both DMBA and BPO. However, the chrozophora tinctoria pretreated group showed complete inhibition of tumor incidence. The group of animals treated only with acetone, carbacol gel, DMBA, BPO and Chrozophora tinctoria alone did not develop any tumors during 32 weeks of observation. **Conclusion:** The results obtained from this study showed that chrozophora tinctoria inhibits completely Skin tumors, in comparison with the control group. Our results also indicated that chrozophora tinctoria extract probably through the scavenging of free radicals plays an important role in skin cancer inhibition. In conclusion, our data suggest that chrozophora tinctoria may be an effective chemopreventive agent and may act protective role against skin tumorigenesis. However, the exact mechanism of tumor inhibition by chrozophora tinctoria remains elusive and needs further experimentation.

Key words: chrozophora tinctoria; 7, 12- Dimethylbenze (a) anthracene; Benzoyl peroxide; Skin tumorigenesis.

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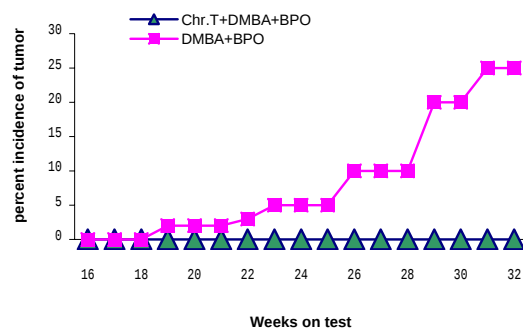
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