Suppression of DMBA/croton oil-induced mouse skin tumor promotion by Ardisia crispa root hexane extract

ABSTRACT

Ardisia crispa (Family: Myrsinaceae) has been used as a traditional medicine for various ailments. Previous studies showed that Ardisia crispa possesses antimetastatic and anti-inflammatory properties. Nevertheless, research done on the plant is still limited. Therefore, the present study was designed to evaluate the suppression effect of Ardisia crispa root hexane (ACRH) extract on 7, 12-dimethylbenz (Ŭ) anthracene (DMBA)-induced mice skin tumor promotion in ICR mice with topical application twice weekly for 10 weeks. Results showed significant difference between treatment groups (mice treated with 30 mg/kg, 100 mg/kg and 300 mg/kg of ACRH extract; denoted as group I, II and III respectively) for tumor incidence and tumor burden ($P<0.05$). Significant reduction in tumor incidence (20%), tumor burden (1.5 ± 0.50), tumor volume (2.49 ± 1.70) and delayed latency period of tumor formation was observed in group I (30 mg/kg) in comparison to carcinogen control. This study indicates that ACRH extract could be a promising skin tumor promotion suppressing agent at a lower dosage (30 mg/kg). Further studies are required to elucidate the underlying mechanism(s) leading to this effect.

Keyword: DMBA skin carcinogenesis; Tumor incidence/burden; Cancer chemoprevention; Ardisia crispa