



The chemical composition and effect of *Chenopodium botrys* L. Chenopodiaceae on a mouse model of excisional wound: Introducing an herbal wound dressing

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Abstract

*This study was aimed to prepare pre-clinical evidences for wound dressing property of powder of *Chenopodium botrys* L. (Chenopodiaceae) on mouse model of excisional wound as reported in Kurdish ethnomedicine through millennia. Chemical*

composition of an essential oil isolated from aerial parts of *C. botrys* L. was analyzed by GC-MS. Eighteen male mice were randomly divided into three equal groups: the group receiving full wound dressing using powder (0.400 g), the group receiving partial wound dressing using powder (0.125 g) and the control group. From the first day of wound induction, the powder was daily dressed on the wounds of treated groups. The wound diameter was measured post-wounding daily and the healing process was evaluated and formulated. Among thirty-nine compounds of the essential oil of *C. botry* L. β -eudesmol (32.22%), elemol (23.35%), juniper-camphor (7.59%), cedren-9- α -ol (4.31%), α -santanol (3.76%) and myrcene (2.90%) were main sesquiterpenes. The wound closure rate showed the steepest in wounded mice received full wound dressing ($y = -1.8286x + 13.329$; $R^2 = 0.9244$) as compared to wounded mice received partial wound dressing ($y = -1.7048x + 12.671$; $R^2 = 0.9694$) and normal wounded mice which left to heal normally ($y = -1.5893x + 13.889$; $R^2 = 0.909$). However, there was not discrepancy among groups on the eighth post-wounding day which all wounds were repaired. The present study demonstrated that plant powder of *C. botrys* hastened the process of wound healing and shortened the time required for a complete wound healing.

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