Mumijo attenuates chemically induced inflammatory pain in mice.

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Abstract

BACKGROUND: Mumijo (shilajit) has been well known in traditional medicine as a remedy for a number of diseases, such as bone fractures, wounds, inflammation, and headache. It is also widely used as an analgesic agent in folk medicine, but no scientific documentation exists concerning that effect.

OBJECTIVE: The current study was conducted to evaluate the ability of mumijo to reduce sensitivity to painful stimuli when compared with morphine sulfate and sodium diclofenac.

METHODS: A total of 176 animals were randomly and equally divided into 2 groups with 88 mice each—one for formalin test and the other for writhing test. For each test, the animals were allocated into 10 equal groups, based on the dosage of the analgesic, plus a negative control group, with 8 mice in each group.

INTERVENTION: The analgesic effect of mumijo extract in doses of 0.75, 7.5, 75, and 750 mg/kg was assessed and compared with a group receiving distilled water—the negative control group, and that for groups receiving 1, 2, or 4 mg/kg of morphine sulfate or 10, 20, or 30 mg/kg of sodium diclofenac—the positive control groups.

RESULTS: The results showed a significant decrease in pain intensity for all mice receiving doses of mumijo extract during a 1-h formalin test when compared with the distilled water group. For all the mumijo groups except the one receiving 750 mg/kg, the analgesic effect was significantly lower than that for the morphine sulfate group receiving 4 mg/kg. No significant differences existed between all mumijo and all diclofenac groups. In a writhing test, a significant inhibition of the pain response induced by acetic acid also occurred in all 4 mumijo-administered groups as opposed to the group receiving distilled water. No significant differences existed between the writhing response in groups receiving 75 and 750 mg/kg of mumijo and any doses of diclofenac or morphine. The comparison among the different doses of mumijo in the formalin test did not show any significant differences, but in the writhing test, the maximum dose showed a more effective analgesic action.

CONCLUSION: The findings indicated a significant analgesic effect for mumijo extract on chronic pain in mice, occurring in a dose-independent manner.