Anti-Inflammatory, Antipyretic and Antioxidant Activities of the Earthworms Extract

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Abstract:

Introduction: Earthworms are the major biomass in soil. They have been widely used in traditional Chinese medicine for a long time. However, in the past few decades with the development of biochemical technologies the research on the pharmaceutical effects of earthworms has been commencement. Aims: Experiments were conducted to recognize the therapeutic properties such as anti-inflammatory, antipyretic and antioxidant activities of biologically active extract isolated from two species of earthworm (Pheretima hawayana Rosa and Allolobophora caliginosa Savigny). Materials and methods: Inflammation in the hind paw of albino rat (Rattus rattus) was induced by histamine, pyrexia was induced by Escherichia coli in rats and liver damage was induced by injection of rats with CCl4. Anti-inflammatory drug - indomethacin, anti-pyretic drug - paracetamol and antioxidant drug - silymarin plus were used as standard drugs for comparison. Results: Administration of earthworms extract (100 mg/kg) and indomethacin (10 mg/kg), paracetamol (150 mg/kg), silymarin plus (150 mg/kg) as standard drugs reduced and restored to normal the changes that induced by histamine, Escherichia coli and CCl4 in rats. Conclusions: The present study conclude that both extracts of earthworms gave result as anti-inflammatory and anti-pyretic similar to the standard drugs. The extract of the two species showed various responds as antioxidants against CCl4 induced hepatotoxicity.

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