

Antinociceptive, anti-inflammatory and antipyretic effects of Solanum nigrum chloroform extract in animal models

ABSTRACT

AIM: The present study was carried out to evaluate the antinociceptive, anti-inflammatory and antipyretic effects of chloroform extract of Solanum nigrum leaves using various animal models. **METHODS:** The extract was prepared by soaking (1:20; w/v) the air-dried powdered leaves (20 g) in chloroform for 72 hrs followed by evaporation (40°C) under reduced pressure to dryness (1.26 g) and then dissolved (1:50; w/v) in dimethylsulfoxide (DMSO). The supernatant, considered as the stock solution with dose of 200 mg/kg, was diluted using DMSO to 20 and 100 mg/kg, and all doses were administered (s.c.; 10 ml/kg) in mice/rats 30 min prior to tests. **RESULTS:** The extract exhibited significant ($p < 0.05$) antinociceptive activity when assessed using the abdominal constriction, hot plate and formalin tests. The extract also produced significant ($p < 0.05$) anti-inflammatory and antipyretic activities when assessed using the carrageenan-induced paw edema and brewer's yeast-induced pyrexia tests. Overall, the activities occurred in a dose-independent manner. **CONCLUSION:** The present study demonstrated that the lipid-soluble extract of *S. nigrum* leaves possessed antinociceptive, anti-inflammatory and anti-pyretic properties and confirmed the traditional claims.

Keyword: Anti-inflammatory; Antinociceptive; Antipyretic; Chloroform extract; Solanum nigrum