Activity of cardamonin on chemical model of nociception in mice

Chung Pui Ping, Lee Ming-Tatt, Muhammad Nadeem Akhtar, Enoch Kumar Perimal, Ahmad Akira, Daud Ahmad Israf and *Mohd Roslan Sulaiman

Department of Biomedical Sciences, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, Selangor, 43400 UPM Serdang, Malaysia.
**Corresponding author.Tel.:+603 89472346; email address: mrs@upm.edu.my*

Non-steroidal anti-inflammatory drugs (NSAIDs) and opioids are among the most widely used medication in reducing pain. Prolonged usage of these drugs leads to undesirable side effects such as gastrointestinal bleeding, respiratory depression and tolerance. Thus, there is a demand to search for new pharmacologically potent analgesic compounds with fewer or no adverse effects. Cardamonin is a naturally occurring chalcone, which are commonly found in plant kingdom. Previous reports showed that cardamonin has anti-inflammatory effects and inhibit generation of nitric oxide and prostaglandin E_2 via interruption of NF-κB pathway. In the present study, we evaluated the antinociceptive property of cardamonin using acetic acid-induced abdominal writhing test in mice. Cardamonin (0.3, 1, 3 and 10 mg/kg), vehicle (10 ml/kg) or indomethacin (10 mg/kg) was administered either intraperitoneally or orally, 30 minutes or 60 minutes respectively before injection of 0.8% acetic acid. The number of abdominal writhes was recorded for 30 minutes, starting from 5 minutes after acetic acid injection. Cardamonin showed significant reduction in abdominal writhes. These findings suggested that cardamonin exerted pronounced antinociceptive activity when assessed in chemical model of nociception in mice.

Keywords: Cardamonin, nociception, acetic acid