

Preliminary study on antinociceptive effect of aqueous extract of *Boesenbergia pandurata* in formalin-induced nociception test in mice

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Pain is an unpleasant sensation associated with body state dysfunction that negatively affects the productivity of patients. Non-steroidal anti-inflammatory drugs (NSAIDs) are commonly used as over-the-counter pain reliever medication due to its cost effectiveness. However, prolonged usage of NSAIDs usually accompanied with adverse side effects such as ulcer, nausea and even kidney failure. Hence, researchers are now focused on traditional herbal research to search for potential analgesic substances that are with minimal or no adverse effects. *Boesenbergia pandurata*, it is also known as *temu kunci* in Malaysia is a perennial herb that belongs to Zingiberaceae family. *Boesenbergia pandurata* is widely distributed in Southeast Asia and its rhizomes are commonly used as food ingredients or as traditional medicine to treat diseases conditions such as inflammation, cancer, and fungal infection. The aim of this study is to evaluate the inhibitory effect of aqueous extract of *Boesenbergia pandurata* (AEBP) on formalin-induced nociception test in mice. Mice were pre-treated with AEBP via intraperitoneal injection 30 min before challenged with intraplantar injection of formalin. It was demonstrated that intraperitoneal administration of AEBP at doses (0.3, 1, 3 and 10 mg/kg) produced significant antinociceptive response in both neurogenic and inflammatory phases of pain response induced by formalin. The findings indicated preliminary study on antinociceptive effect of AEBP, but further study should be conducted to explore the exact mechanism of pain inhibition by AEBP.

Keywords: *Boesenbergia pandurata*, antinociceptive, neurogenic, inflammatory pain