Antihyperalgesic effects of clomipramine and tramadol in a model of posttraumatic trigeminal neuropathic pain in mice

Alvarez, Pedro

Brun, Aurore

Labertrandie, Anaïs

Lopez, José

Correa, Alejandro

Constandil, Luís

Hernández, Alejandro

Pelissier, Teresa

© Quintessece. Aims: To develop a behavioral model in mice that is capable of mimicking some distinctive symptoms of human posttraumatic trigeminal neuropathic pain such as spontaneous pain, cold allodynia, and chemical/inflammatory hyperalgesia, and to use this model to investigate the antinociceptive effects of clomipramine and tramadol, two drugs used for the treatment of neuropathic pain. Methods: A partial tight ligature of the right infraorbital nerve by an intraoral access or a sham procedure was performed. Fourteen days later, mice were subcutaneously injected with saline or drugs and the spontaneous nociceptive behavior, as well as the responses to topical acetone and to formalin or capsaicin injected into the ipsilateral vibrissal pad, were assessed. Data were analyzed by ANOVA. Results: Neuropathic mice exhibited an increased spontaneous rubbing/scratching of the ipsilateral vibrissal pad, together with enhanced responses to cooling (acetone) and the chemical irritants (form