Antinociception induced by copper salt revisited: Interaction with Ketamine in formalin-induced intraplantar and orofacial pain in mice

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© Quintessenz. Aims: To evaluate in mice the antinociceptive effect of copper in spinal and trigeminal nociceptive pathways by using the intraplantar and orofacial formalin tests, respectively, and to examine whether this effect may interact synergistically with ketamine-induced antinociception. Methods: Nociceptive behaviors (licking/ biting of the formalin-injected limb and rubbing/scratching of the formalin-injected orofacial area) in male mice were evaluated during a 45-minute observation period post-formalin injection. Dose-response curves for intraperitoneal (ip) copper sulfate and ketamine allowed their combination in equi-effective doses, and their interaction was determined with isobolographic analysis. The results were examined with one-way analysis of variance followed by the Bonferroni post hoc test. Significance was accepted at an alpha level of .05. Results: Irrespective of the region injected with formalin (upper lip or hindlimb), copper sulfate (0.3, 1.0, and 3.0 mg/kg)