

Summary attachment - study ended before 21 July 2013

EudraCT number: 2008-000746-32

Full title of the study: Validation of experimental pain models as translational for craniofacial myalgia with respect to the influence of 5-HT, glutamate, cortisol and estradiol level

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Link to published article: <https://onlinelibrary.wiley.com/doi/abs/10.1111/joor.12046>

Abstract from published article:

The aim of this study was to investigate whether intramuscular administration of the 5-HT₃ receptor antagonist granisetron reduces experimental muscle pain induced by repeated intramuscular injections of acidic saline into the masseter muscles. Twenty-eight healthy and pain-free volunteers, fourteen women and fourteen men participated in this randomized, double-blind and placebo-controlled study. After a screening examination and registration of the baseline pressure–pain threshold (PPT), the first simultaneous bilateral injections of 0.5 mL acidic saline (9 mg mL⁻¹, pH 3.3) into the masseter muscles were performed. Two days later, PPT and pain (VAS) were re-assessed. The masseter muscle was then pre-treated with 0.5 mL granisetron (Kytril® 1 mg mL⁻¹ pH 5.3) on one side and control substance (isotonic saline, 9 mg mL⁻¹ pH 6) on the contralateral side. Two minutes thereafter a bilateral simultaneous injection of 0.5 mL acidic saline followed. The evoked pain intensity, pain duration, pain area and PPT were assessed. The volunteers returned 1 week later to re-assess VAS and PPT. On the side pre-treated with granisetron, the induced pain had significantly lower intensity and shorter duration ($P < 0.05$) compared with the side pre-treated with control. A subgroup analysis showed that the effect of granisetron on pain duration was significant only in women ($P < 0.001$), while the effect on peak pain and pain area were significant in both sexes. The results showed no significant change in PPT. In conclusion, these results indicate that granisetron has a pain-reducing effect on experimentally induced muscle pain by repeated acidic saline injection.

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