

The size of pain referral patterns from a tonic painful mechanical stimulus is increased in women



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Aims: The purpose of this study was to investigate potential gender differences in pain referral patterns induced by a tonic painful mechanical stimulus.

Methods: Forty-five healthy adults (22 women) participated in this study. Pressure pain thresholds (PPTs) were assessed at the infraspinatus, the brachioradialis and the gastrocnemius muscles on the dominant side, using handheld algometry. Following this, painful pressure at the infraspinatus muscle was induced using the algometer by rapidly increasing the pressure until it reached the level of 7 cm on VAS (PVAS7). This pressure was kept constant for 60 s. Upon release, the subject was asked to indicate the area of the pressure-induced pain on a digital body chart. PPT values, PVAS7 and the pain area (number of pixels) were extracted for data analysis.

Results: No gender differences were found in PPT values ($P > 0.05$). The pressure needed to reach 7 cm on the VAS was significantly lower in the female group (687.4 ± 50.5 kPa) compared with males (971.0 ± 49.6 kPa; unpaired t -test: $P < 0.05$). The size of the pain area following PVAS7 stimulation for 60 s was significantly larger in the female group ($12,578.5 \pm 17,280.3$ pixels) compared with the male group (6175.0 ± 9518.5 pixels; Mann-Whitney- U ; $P < 0.05$).

Conclusions: Despite comparable PPT values, women demonstrated larger pain areas compared with men although the standardized painful stimulus which intensity was perceived similarly as 7 cm on the VAS scale in both groups. These findings suggest that there are gender-specific differences in pain distribution and referred pain but it is unclear through which mechanism they are mediated.

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Oxycodone and macrogol 3350 treatment reduces anal sphincter relaxation compared to combined oxycodone and naloxone tablets



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Background: Opioid analgesics inhibit anal sphincter function and contribute to opioid-induced bowel dysfunction. However, it is unknown if the inhibition can be reduced by opioid antagonism with oral naloxone, and how this compares to osmotic laxative treatment.

Aims: To compare the effects of oxycodone and macrogol 3350 treatment (OX + PEG) versus combined oral oxycodone and naloxone (OXN) on anal sphincter function and gastrointestinal symptoms.

Methods: A randomised, double-blind, crossover trial was conducted in 20 healthy, male volunteers. Participants were randomised to five days treatment of OX + PEG or OXN. Anal resting pressure, anal canal distensibility, and rectoanal inhibitory reflex-induced sphincter relaxation were evaluated at baseline and on day 5. The Patient Assessment of Constipation questionnaire (PAC-SYM), stool frequency, and stool consistency were assessed daily.

Results: Sphincter relaxation was reduced after OX + PEG treatment compared to OXN (difference = -17.6% [95% CI: $-25.2, -10.2$]; $P < 0.001$). Anal resting pressure and anal canal distensibility did not differ between the treatments. PAC-SYM abdominal symptom subscale increased during OX + PEG compared to OXN (cumulated score: 3.2 ± 2.3 vs. 0.2 ± 1.8 ; $P = 0.002$). Number of bowel movements was higher during OX + PEG vs. OXN (5.4 ± 1.5 vs. 4.2 ± 1.2 ; $P = 0.035$), but there was no difference in stool consistency (3.5 ± 0.5 vs. 3.2 ± 0.4 ; $P = 0.14$).

Conclusions: Sphincter relaxation was significantly reduced after OX + PEG compared to OXN. Evaluation of the rectoanal inhibitory reflex may serve as an important objective measure in future trials on treatment of opioid-induced bowel dysfunction.

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The effect of UVB-induced skin inflammation on histaminergic and non-histaminergic evoked itch and pain



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Aims: Itch often occurs in cutaneous conditions characterized by some degree of inflammation, e.g. atopic dermatitis, psoriasis