Pain. 2022 May 1;163(5):955-963. doi: 10.1097/j.pain.0000000000002462.

Effects of opioid rotation to buprenorphine/naloxone on pain, pain thresholds, pain tolerance, and quality of life in patients with chronic pain and opioid use disorder

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PMID: 34433769 DOI: 10.1097/j.pain.0000000000002462

Abstract

Long-term opioid use in patients with chronic noncancer pain (CNCP) can lead to opioid use disorder (OUD) and has been associated with hyperalgesia and reduced quality of life (QoL). Studies suggest antihyperalgesic properties of buprenorphine, and buprenorphine or naloxone (BuNa) has shown beneficial effects on QoL in patients with OUD without CNCP. This study investigated the added value of BuNa in patients with CNCP with OUD on self-reported pain, pain thresholds, pain tolerance, and QoL. In the current study, 43 outpatients with CNCP and OUD were included for inpatient conversion from full μ-receptor agonist opioids to BuNa. Self-reported pain, pain thresholds, pain tolerance, and QoL were determined at baseline and after 2 months of follow-up, using, respectively, a Visual Analogue Scale (VAS-pain and VAS-QoL), quantitative sensory testing, and EuroQol-5 dimensions. In total, 37 participants completed the protocol, and their data were analyzed. The mean VAS-pain score decreased from 51.3 to 37.2 (27.5%, $F = 3.3$; $P = 0.044$), whereas the pressure pain threshold and electric pain threshold or tolerance increased after substitution ($F = 7.8$; $P = 0.005$ and $F = 44.5$; $P < 0.001$, respectively), as well as QoL (EuroQol-5 dimensions questionnaire: $F = 10.4$; $P = 0.003$ and VAS-QoL: $F = 4.4$; $P = 0.043$). We found that conversion of full μ-receptor agonists to BuNa, in patients with CNCP with OUD, was accompanied with lower self-reported pain, higher pain thresholds, higher pain tolerance, and improved QoL. Despite several study limitations, these data suggest that BuNa might be of value in patients with CNCP with OUD. Future studies should investigate long-term effects of BuNa in randomized trials.

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