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Longitudinal observation of changes in pain sensitivity during opioid tapering in patients with chronic low-back pain.

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Abstract

OBJECTIVE: Several studies have shown that exposure to opioids for short or long periods alters pain sensitivity. Little is known about changes in pain sensitivity during and after tapering of long-term prescribed opioid treatment in chronic low-back pain (cLBP) patients.

DESIGN: The goal of this prospective longitudinal study was to investigate pain sensitivity in a homogeneous patient population (cLBP patients only) after tapering of long-term (17 months) opioid use and to monitor the changes in pain sensitivity for 6 months.

METHODS: Pain sensitivity (thermal sensation and thermal pain thresholds in low back and nondominant hand) was measured by quantitative sensory testing (QST) at 1 day before (T1), 3 weeks after (T2), and 6 months after the start of opioid tapering (T3) in 35 patients with both cLBP and opioid medication (OP), 35 opioid-naïve cLBP patients (ON), and 28 individuals with neither pain nor opioid intake (HC).

RESULTS: Significant differences in heat pain thresholds were found among the three groups at all three time points (T1: P=0.001, T2: P=0.015, T3: P=0.008), but not between the two patient groups. OP patients showed lower cold pain thresholds at T2 than ON patients and HC. At T3, the heat pain thresholds of OP patients still remained lower than HC (P=0.017), while those of ON patients were normalized.

CONCLUSIONS: Our findings suggest that long-term use of opioids does not reduce pain sensitivity in cLBP patients; opioid tapering may induce brief hyperalgesia that can be normalized over a longer period.

Comment in

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