



DULOXETINE HAS NO EFFECT ON EXCITATORY SPINAL ACTIVITY BUT RESTORES CONDITIONED PAIN MODULATION IN FIBROMYALGIA PATIENTS

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INTRODUCTION / AIM

The efficacy of duloxetine to alleviate pain in fibromyalgia (FM) has been demonstrated, but we still need to understand the mechanisms under the analgesic response. The aim of this study is to investigate the effects of a treatment with duloxetine on excitatory (nociceptive reflex - RIII) and inhibitory (Conditioned Pain Modulation – CPM) responses to painful stimulations.

METHODS

Duloxetine's effect was verified in 14 patients suffering from fibromyalgia (FM) by comparing their responses to experimental pain before and after a 4-week treatment. Nociceptive reflexes recorded at the biceps femoris during sural nerve electrical stimulation were measured to assess spinal excitatory activity. Conditioned pain modulation (CPM) was evaluated by comparing pain perception produced by a heat test stimulus before and after a cold pressor test (CPT) to assess inhibitory mechanisms efficiency.

RESULTS

Duloxetine had no effect on reflex threshold nor on the amplitudes of the reflexes. Patients with inefficient CPM prior to treatment (N=8) experienced a duloxetine-induced improvement in CPM efficiency ($p= 0.035$). However, this was not found in patients with efficient CPM at baseline (N=6) ($p= 0.107$).

DISCUSSION / CONCLUSIONS

Duloxetine had no direct effect on excitatory spinal activity in response to pain. However, duloxetine seems to restore CPM efficiency, but only in patients with inefficient CPM before treatment. These results suggest different responder profiles among patients, and should be acknowledged by healthcare professionals in order to determine which patients might most benefit from a treatment with duloxetine and assign a better treatment for each patient.

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