

Clinically Relevant Outcomes in Osteoarthritis: Analysis of Pooled Data From Two Randomized, Placebo-controlled Trials of Duloxetine in Patients With Osteoarthritis of the Knee

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Purpose

To determine response to duloxetine versus placebo in patients with osteoarthritis (OA) of the knee using Outcome Measures in Rheumatology Arthritis Clinical Trials-Osteoarthritis Research Society International (OMERACT-OARSI) criteria, and to assess the comparability and correlation with minimal clinically important improvement (MCII) and patient acceptable symptom state (PASS) for pain and function.

Method

Data were pooled from two 13-week, double-blind, randomized controlled trials comparing duloxetine 60 to 120 mg/day (n=239) and placebo (n=248) in patients with symptomatic OA of the knee. Treatment response was determined according to the OMERACT-OARSI criteria, in addition to MCII and PASS for pain and function using criteria developed by Tubach and colleagues.^{1,2} Agreement among the efficacy outcomes is reported in terms of the kappa (κ) coefficient.

Results

Patients randomly assigned to duloxetine were 33% more likely to experience an OMERACT-OARSI response compared to placebo (relative risk [RR]=1.33, 95% confidence interval [CI]: 1.15 to 1.55, $p \leq .001$). The greatest agreement was between OMERACT-OARSI responders and $\geq 30\%$ reduction in pain ($\kappa=0.78$), defined as clinically meaningful improvement by the Initiative on Methods, Measurement, and Pain Assessment in Clinical Trials (IMMPACT) recommendations. Moderate agreement was demonstrated between OMERACT-OARSI response and achieving a MCII for pain ($\kappa=0.59$), PASS for pain ($\kappa=0.58$), PASS for function ($\kappa=0.43$), and $\geq 50\%$ reduction in pain ($\kappa=0.55$).

Conclusions

Significantly more patients receiving duloxetine than placebo achieved an OMERACT-OARSI response, achieved improvements in pain and function exceeding the level accepted as MCII, and achieved PASS. These results support the efficacy of duloxetine for symptomatic OA of the knee.