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Low-dose duloxetine for migraine prophylaxis: analysis of a case series demonstrating early clinical response

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Introduction
Migraine is a complex neurological disorder with a substantial serotonergic and noradrenergic component and is associated with significant functional disability. Serotonin–norepinephrine reuptake inhibitors (SNRIs) act on descending pain modulatory pathways, representing a pathophysiologically grounded option for migraine prevention. Duloxetine, an SNRI with a favorable tolerability profile, is particularly relevant for patients with migraine and neuropsychiatric comorbidities. Furthermore, it is included in Brazil's public healthcare system essential medicines list, ensuring broad accessibility nationwide.

Objective
To evaluate the efficacy and tolerability of duloxetine 30 mg/day for migraine prophylaxis in a case series of patients followed at a specialized headache outpatient clinic.

Methods
This prospective case series included six patients receiving care at a specialized headache clinic who were treated with duloxetine 30 mg/day as preventive therapy for migraine between 2025 and 2026. Time to response, clinical response rate, and tolerability profile were assessed. The Shapiro–Wilk test was applied to evaluate the distribution of continuous variables.

Results
The study population consisted of six female patients with a mean age of 49.5 ± 17.7 years (median: 57.0 years; range: 18–66 years). All patients received duloxetine 30 mg/day without the need for dose escalation. A clinical response was observed in all patients, with a marked reduction in migraine attack frequency. Mean time to response was 1.3 ± 0.8 months (95% CI: 0.48–2.19 months; median: 1.0 month; range: 1–3 months). The distribution of time to response was non-normal (Shapiro–Wilk test: $W = 0.496$; $p < 0.001$). Tolerability was favorable, and no adverse events resulted in treatment discontinuation.

Conclusion
Duloxetine 30 mg/day demonstrated favorable efficacy and tolerability in this case series, with an early therapeutic response (median time to response of 1.0 month). The observed clinical benefit at a dose lower than that commonly recommended may have important practical implications, particularly in the Brazilian setting, where the medication is available through the public healthcare system and its lower cost may facilitate long-term treatment adherence. Larger controlled studies are warranted to determine the optimal dose and identify predictors of therapeutic response in migraine prophylaxis.

Keywords:
Migraine
Prophylaxis
Duloxetine
Serotonin–norepinephrine reuptake inhibitors

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