

Evaluating the efficacy of duloxetine and gabapentin in pain reduction in patients with knee osteoarthritis

Abstract

Introduction: Knee osteoarthritis (OA) is a common form of arthritis in elders which can lead to reduced daily activity and quality of life. It is important to administer a proper treatment with high efficacy and low side effects. In this study we evaluated the efficacy of duloxetine and gabapentin in patients with moderate to severe knee OA.

Methods: In this randomized clinical trial, 150 patients with moderate to severe knee OA were randomly allocated to receive duloxetine 30 mg (n=50), gabapentin 300 mg (n=50) or acetaminophen 1000 mg (n=50) all twice a day for 12 weeks. Pain severity was measured using visual analogue scale (VAS) and functional status with Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) before, 2 weeks, one and 3 months after intervention.

Results: Both gabapentin and duloxetine groups had significantly more reduction in pain severity compared to acetaminophen group ($p < 0.001$ for both), with no significant difference between groups ($p = 0.33$). WOMAC total and its subgroups score were significantly lower in duloxetine compared to gabapentin group in 2 weeks and 1 months after intervention, with no significant difference between groups at the end of third month. The percent of change in WOMAC and its subscales scores in both gabapentin and duloxetine groups were significantly higher than acetaminophen ($p < 0.001$), with no significant difference between gabapentin and duloxetine groups.

Conclusion: Both gabapentin and duloxetine have similar and acceptable effects in pain reduction and improvement of functional status in patients with knee OA at the end of third month's treatment. Duloxetine effects begin from the first weeks, while gabapentin effects begin gradually with the best at the end of third month.

Keywords: Knee Osteoarthritis; Gabapentin; Duloxetine; Pain