

## JOURNAL WATCH

### **Double-blind, randomized trial of bupropion SR for the treatment of neuropathic pain.**

Semenchuk MR, Sherman S, Davis B. *Neurology*. 57:1583-8, 2001

Prepared by: Dr. Sharon Watanabe

Received during: Journal Club on the Tertiary Palliative Care Unit

#### **Abstract:**

*Objective:* To evaluate the effectiveness and safety of bupropion sustained-release (SR) for the treatment of neuropathic pain.

*Method:* This single-center, outpatient, randomized, double-blind, placebo-controlled, crossover study consisted of two phases. Forty-one nondepressed patients with neuropathic pain spent 6 weeks in each phase in random order and received identical tablets of 150 mg bupropion SR or placebo. Patients were instructed to take one tablet once daily for 1 week followed by one tablet twice daily for 5 weeks.

*Results:* While the patients took bupropion SR, neuropathic pain relief was improved or much improved in 30 (73%) patients, and one of these patients became pain-free. The mean average pain score at baseline was 5.7, which remained unchanged at the end of week 6 with placebo, but decreased by 1.7 points to 4.0 ( $p < 0.001$ ) during therapy with bupropion SR. Pain relief with bupropion SR was significant at week 2 ( $p < 0.05$ ) and continued throughout weeks 3 through 6 ( $p < 0.001$ ). A significant decrease in interference of pain on quality of life was observed while patients were receiving bupropion SR compared with placebo. Side effects experienced with bupropion SR were not dose-limiting and consisted primarily of dry mouth, insomnia, headache, gastrointestinal upset, tremor, constipation, and dizziness.

*Conclusion:* This placebo-controlled crossover trial showed that bupropion SR (150-300 mg daily) was effective and well tolerated for the treatment of neuropathic pain.

#### **Comments:**

##### Strengths/uniqueness:

This is the first controlled evaluation of bupropion for neuropathic pain. In general, the study was well-designed. The investigators acknowledged the limitations of the study and were appropriately cautious in their conclusions.

##### Weaknesses:

The major limitation of the study was the potential unmasking of the blind by the higher frequency of side effects with bupropion. That is, the side effects may have led subjects to deduce that they were receiving active drug, which may have biased them to perceive a treatment benefit. The study was conducted at a single centre and the number of subjects was small. The trial was supported by the manufacturer of the drug.

##### Relevance to Palliative Care:

The management of neuropathic pain remains a challenge in palliative care, and new strategies are welcome. This study was conducted in a population of patients with chronic non-cancer pain who were otherwise healthy, so the results cannot be directly applied to the palliative setting. At present, the amount of evidence to support the use of bupropion is more limited compared to tricyclic antidepressants and anticonvulsants. Larger studies employing an active control are

required. Until then, bupropion may be considered in specific clinical situations if trials of other adjuvant analgesics are unsuccessful or contraindicated.