The Use of Topical Baclofen, Amitriptyline HCl, and Ketamine (BAK) in a PLO Gel vs. Placebo for the Treatment of Chemotherapy Induced Peripheral Neuropathy: A Phase III Randomized Double-Blind Placebo Controlled Study

Purpose of Study:

Primary Goal
To compare sensory neuropathy as measured by the sensory scale of the EORTC QLQ-CIPN20 for the topical amitriptyline HCl/ baclofen/ ketamine and placebo arms to determine whether topical amitriptyline HCl/ baclofen/ ketamine is effective in improving sensory neuropathy in patients with CIPN.

Secondary Goals
To compare motor and autonomic symptoms and functioning (EORTC QLQCIPN20); mood states (POMS-B); pain (BPI); and peripheral neuropathy (Peripheral Neuropathy Question); in patients in the two treatment arms.

To assess the adverse event profile of topical amitriptyline HCl/ baclofen/ ketamine by CTCAE v3.0 and by a weekly patient-completed Symptom Experience Diary.

To explore whether topical amitriptyline HCl/ baclofen/ ketamine is absorbed systemically.

Study Chair: Debra L. Barton R.N., Ph.D.
Edward J. Wos D.O.

Statistician: Rui Qin Ph.D.

Study Status/Accrual: This study closed on 01/15/2010. Final accrual, patient characteristics, and adverse events tables can be viewed in the Fall 2009 Book Report. Manuscript status: published.


Abstract: BACKGROUND: Chemotherapy-induced peripheral neuropathy (CIPN) is a troublesome chronic symptom that has no proven pharmacologic treatment. The purpose of this double-blind randomized placebo-controlled trial was to evaluate a novel compounded topical gel for this problem.

METHODS: Patients with CIPN were randomized to baclofen 10 mg,
amitriptyline HCL 40 mg, and ketamine 20 mg in a pluronic lecithin organogel (BAK-PLO) versus placebo (PLO) to determine its effect on numbness, tingling, pain, and function. The primary endpoint was the baseline-adjusted sensory subscale of the EORTC QLQ-CIPN20, at 4 weeks.

**RESULTS:** Data in 208 patients reveal a trend for improvement that is greater in the BAK-PLO arm over placebo in both the sensory (p = 0.053) and motor subscales (p = 0.021). The greatest improvements were related to the symptoms of tingling, cramping, and shooting/burning pain in the hands as well as difficulty in holding a pen. There were no undesirable toxicities associated with the BAK-PLO and no evidence of systemic toxicity.

**CONCLUSION:** Topical treatment with BAK-PLO appears to somewhat improve symptoms of CIPN. This topical gel was well tolerated, without evident systemic toxicity. Further research is needed with increased doses to better clarify the clinical role of this treatment in CIPN.