Use of a topical compound medication for the treatment of chemotherapy induced peripheral neuropathy

Carlos R. Perez Gonzalez, MD; Mously LeBlanc, MD

Background/Purpose

An increase in the prevalence of cancer has led to a rising population of patients coping with its long term effects. Chemotherapy induced peripheral neuropathy (CIPN) has been estimated to have an incidence of around 38% of patients. The most common symptoms include pain, numbness or tingling in a "glove and stockings" distribution.

Currently there is no FDA approved treatment for CIPN and the standards of care used for non-chemotherapy induced peripheral neuropathy have not shown much effectiveness. The pathophysiological mechanism is not completely understood but it is believed to involve several different mechanisms, which is why different targeting different pathways for neuropathy would be the best approach. One way to deliver the effects with minimal side effects would be a topical compound with multiple medications of varying mechanisms of action. This is why we intend to try a compound with amantadine, doxepin, gabapentin, lamotrigine, sertraline and pentoxifylline for the treatment of CIPD.

Participants

Patients treated for chemotherapy induced peripheral neuropathy by Dr. Mously LeBlanc.

Design and setting

This will be a retrospective study in which patients with the diagnosis of chemotherapy induced peripheral neuropathy will be located on the EPIC electronic medical record. Their age, sex, localization of symptoms, adverse events, oral neuropathic medication, topical compound prescribed and patient reported effectiveness of the medication will be extracted and recorded on an Excel spreadsheet. We will use the information to compare the effectiveness of the treatments as well as establish simple, descriptive demographics of the patients in the study. The patients will be stratified into 2 groups: patients taking the topical cream and patients not taking the cream but on another oral medication.

Results

A total of 46 total patients were identified to have been prescribed the topical compound of interest. Of these only 12 patients actually received the med and followed up. A total of 44 patients were identified for the oral medication group and 34 of these received the medication and followed up. 75% of the topical group reported that the intervention helped compared to 70% of the oral medication group. Both groups had a significant reduction in VAS for completers ($p<.0001$ for the oral group difference in VAS 2.98) and for topical completers ($p=.005$ for the topical group difference, VAS=2.0).

Conclusions

There was no difference identified between the group on oral medications versus the topical compound. The topical compound proved to be inaccessible to many patients, mostly because of how expensive they are.