EFFECT OF DULOXETINE ON PAINFUL CHEMOTHERAPY-INDUCED PERIPHERAL NEUROPATHY

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Approximately 20-40% of cancer patients who receive neurotoxic chemotherapy develop painful chemotherapy-induced peripheral neuropathy. Smith et al. were the first to report that duloxetine was effective for neuropathy after administration of taxanes and platinum (JAMA 2013). Therefore, the aim of this study was to evaluate the effect of duloxetine in Japanese patients after administration of the above-mentioned drugs as well as additional drugs such as vinca alkaloids and bortezomib.

In this open-label randomized crossover study, patients were randomly allocated to receive either duloxetine followed by vitamin (V) B12 or VB12 followed by duloxetine. The initial treatment consisted of 20 mg of duloxetine or VB12 for the first week and 40 mg of duloxetine or VB12 daily for 3 additional weeks. Dose reduction was permitted if adverse effects were observed. The primary hypothesis was that duloxetine would be more effective than VB12 in reducing chemotherapy-induced peripheral neuropathic pain. The numbness and pain severity were assessed weekly using a visual analogue scale (VAS). (UMIN 000011554)

Eighteen cancer cases (breast cancer [2 cases]: taxane, gastric cancer [1]: taxane, colon cancer [3]: oxaliplatin, malignant lymphoma [8]: vincristine, multiple myeloma [4]: bortezomib) presented at our institution. Four patients dropped out because of the adverse effects, such as drowsiness and general malaise. The observed mean difference in the average pain scores between patients administered duloxetine and VB12 was 0.46 (p = 0.03). That of numbness scores was 0.63 (p = 0.04). In patients with painful chemotherapy-induced peripheral neuropathy, administration of duloxetine resulted in increased pain reduction as compared to the group that was administered VB12 for 4 weeks; however, many patients dropped out of the study because of the adverse effects of the treatment.