Brief Summary of the Research Work

Chemotherapy-induced nausea and vomiting (CINV) is one of the factors that significantly affect the patient's quality of life and reduce compliance with chemotherapy medication. When antiemetic prophylaxis is not given, the incidence of CINV is as high as 90% with highly emetogenic chemotherapy (HEC) regimens. Neurokinin-1 (NK-1) receptor antagonists can effectively prevent CINV, but they are not affordable for patients of low socioeconomic status.

This study was designed to evaluate the safety and efficacy of the combination of olanzapine (an antipsychotic) and pregabalin (a gabapentinoid) in addition to ondansetron and dexamethasone for preventing CINV in patients from low socioeconomic backgrounds who cannot afford NK-1 antagonists and are receiving HEC regimens. The unique aspect of this research is the use of an adaptive design, which allows us to limit the number of participants who receive less effective therapy and ultimately enhances patient outcomes. Participants in the experimental group received olanzapine 5 mg plus pregabalin 75 mg orally for five days in addition to standard antiemetic therapies. The control group received only standard antiemetic therapy. The primary outcome was to compare the difference in the proportion of patients with no nausea between the groups.

The results of this study showed that the add-on combination of olanzapine and pregabalin significantly reduced the incidence of CINV compared to standard therapy alone. The experimental group had a higher proportion of patients with no nausea, no vomiting, and no rescue medication use. The add-on combination was also associated with a better quality of life for the patients. However, the add-on combination did come with adverse effects, including sedation and dizziness, which are common adverse effects of olanzapine and pregabalin, respectively. For checking the interaction effect of pregabalin plus olanzapine in exploring the synergism between the two drugs a factorial trial is being conducted by Dr. Mathan.

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