



Positive Quality Intervention: Olanzapine in Chemotherapy Induced Nausea and Vomiting (CINV)

Description of PQI: Olanzapine (Zyprexa®) is an FDA approved atypical antipsychotic that blocks multiple neuronal receptors involved in nausea/vomiting pathways¹. This PQI will review the appropriate use of olanzapine for prevention and treatment of CINV.

Background: Historically, patients have been prescribed dexamethasone along with a 5HT3 antagonist (ex. ondansetron) to prevent nausea and vomiting. For patients receiving highly and often moderately emetogenic chemotherapy, and NK1 receptor antagonist, such as fosaprepitant, is added to the antiemesis regimen. Olanzapine has been studied for breakthrough² CINV as well as prophylaxis of highly and moderately emetogenic regimens^{3,4,5}. Additionally, olanzapine has been studied in replacement of NK1 receptor antagonists (i.e., aprepitant) as well as in addition to standard triplet prophylaxis regimens which include NK1 receptor antagonists^{4,5,6,7}. The results of these trials suggest olanzapine is at least as effective as aprepitant and combination olanzapine with aprepitant has led to promising reports of CINV control. Based on the results from these various studies, national guidelines recommend olanzapine 10 mg PO daily as an option within prophylaxis regimens for HEC and MEC chemotherapy regimens. Clinically, lower doses of 5mg and 2.5mg have been used in patients where sedation may be a concern.

PQI process:

Upon receipt of an order for a HEC or MEC chemotherapy regimen:

- Screen for appropriate antiemesis medications:
 - o Dexamethasone
 - o 5HT3 Antagonist
 - o NK1 Antagonist
 - o +/- Olanzapine
- If olanzapine if not initially included in the orders, consider recommending the addition of olanzapine 5-10mg PO daily Days 1 through 4 of chemotherapy.
 - If the patient is elderly or over-sedated, consider using a lower dose upon initiation⁸.
 - Use caution when prescribing olanzapine with metoclopramide or haloperidol, as this combination may lead to a higher risk of extrapyramidal symptoms.

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Patient Centered Activities:

- Patient Compliance
 - Encourage patients to take this medication each day, as prescribed
 - This is particularly important for any patients receiving HEC or MEC regimens in the outpatient setting
- Patient Education
 - Explain CINV and the different medications that are being prescribed to help prevent nausea and vomiting
 - **Outline the reason patients take olanzapine on days 1 through 4 only***
 - *some multiple day HEC regimens may require more than 4 days of therapy
 - Olanzapine may be administered without regard to meals
 - Review common side effects with the patient
 - Drowsiness
 - Headache
 - Disturbed sleep
 - Extrapyramidal reactions
 - Increased appetite
 - Constipation
 - Drowsiness will potentially diminish over time

References:

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