Ondansetron

Ondansetron is a powerful antiemetic used to control nausea and vomiting in patients undergoing chemotherapy, or patients who are postoperative. It works as a 5-HT₃ serotonergic antagonist, and leads to receptor antagonist activity centrally, causing inhibition of the medullary chemoreceptive zone.Though well tolerated, the most common side effects of ondansetron are headache and constipation. Caution should be taken when prescribing ondansetron for those with congenital arrhythmias, congestive heart failure, bradycardia or patients taking QT interval prolonging medications, as this medication can lead to further QT interval prolongation.



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Indications

Postoperative Vomiting
Postoperation Vomiting
Ondansetron is very effective and is frequently used for controlling post-operative nausea and vomiting in patients.

Chemotherapy-induced Nausea and Vomiting
Chemo-head-wrap
This medication is the drug of choice for preventing and treating chemotherapy-induced nausea and vomiting. This drug is usually given 30 minutes before commencing a chemotherapy session.

Mechanism

5-HT3 Serotonergic Antagonist
5-HT3 Silver-tonic Ant-toga
This drug works by working as a serotonin 5-HT3 receptor antagonist. The antiemetic activity of the drug is brought about through the inhibition of 5-HT3 receptors present both centrally (medullary chemoreceptor zone) and peripherally (GI tract). This inhibition in turn inhibits the visceral afferent stimulation of the vomiting center, as well as through direct inhibition of serotonin activity within the area postrema and the chemoreceptor trigger zone.

Centrally-acting Antiemetic
C-brain Ant-tie-medic
This drug has antagonist activity, both centrally and at visceral receptors. A large amount of ondansetron's activity, however, comes from its central inhibition of the medullary chemoreceptor zone.

Side Effects

Headache
Head-egg Lump
Though ondansetron is well tolerated, one of the most common complaints is headache.

Constipation
Corked Con-toilet
Ondansetron is well tolerated, but a common complaint with this drug is constipation.

QT Prolongation
QT-heart Prolonged
Caution should be taken when prescribing ondansetron for those with congenital arrhythmias, congestive heart failure, bradycardia or patients taking QT interval prolonging medications. This is because ondansetron (Zofran) has been shown to prolong the QT interval, which could predispose patients to develop an abnormal and potentially fatal heart rhythm, known as Torsades de Pointes.

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