Direct Healthcare Professional Communication

October 2026

Ondansetron: Important Safety Information Regarding Off-Label Use, Pregnancy Exposure, and the Risk of QT Prolongation

Dear Healthcare Professional,

[Marketing Authorization Holder (MAH Name)], in agreement with the Pharmaceutical Vigilance General Administration (PVGA) of the Egyptian Drug Authority (EDA), informs healthcare professionals of an important safety signal concerning **the off-label and inappropriate use of ondansetron, particularly in pediatric patients and during the first trimester of pregnancy**. Healthcare professionals are reminded to prescribe and administer ondansetron strictly in accordance with its approved indications, approved prescribing information, and current clinical recommendations to promote its safe and appropriate use.

Summary

The PVGA reviewed **134 national cases of adverse drug reactions (ADRs) associated with the off-label or inappropriate use of ondansetron**. The cases included pediatric patients (32.8%), adults (41.6%), pregnancy-related reports (16%), and patients of unknown age (9.6%).

Key findings include:

- **Pregnancy (ADRs) reported**: including three cases of cleft lip. The risk of orofacial malformations following ondansetron administered during the first trimester is addressed in the EU Summary of Product Characteristics (SmPC).

  Note that: **According to the Egyptian Health Council (2025) and RCOG guidelines**, reserve ondansetron for severe or refractory nausea and vomiting in pregnancy or hyperemesis gravidarum when first-line treatments have failed [1-2].

- **Cardiac (ADR) in pediatrics reported**: QT interval prolongation, cardiac arrest, and overdose.

  Note that: **According to pediatric gastroenteritis guidelines**, oral or intravenous rehydration remains the cornerstone of treatment. Routine ondansetron use should be avoided in mild or uncomplicated gastroenteritis and nonspecific abdominal pain [3-4].

- **Other reported ADRs**: extrapyramidal disorders, hypersensitivity reactions, seizures, constipation, headache, lack of efficacy, dizziness, diarrhea, and pruritus.

- **The approved indications of ondansetron** are the control of Chemotherapy-Induced Nausea and Vomiting (CINV), Radiotherapy-Induced Nausea and Vomiting (RINV), and Postoperative Nausea and Vomiting (PONV).

Recommendations for Healthcare Professionals

- **Pregnancy:** avoid routine first-line use of ondansetron during pregnancy, particularly during the first trimester, due to the risk of orofacial malformations. **Ondansetron** should only be used as a **second-line intervention** for severe, refractory Hyperemesis Gravidarum (HG) or Nausea and Vomiting in Pregnancy (NVP) when first-line therapies have failed.
- **QT prolongation**: Assess patients for QT-prolongation risk factors and avoid use where clinically contraindicated.
- **Dosing**: Follow strict dosing and infusion guidelines (e.g., slow IV infusion over 15 minutes) to prevent cardiac toxicity. **Ensure accurate dose calculations** in pediatric patients and verify the prescribed dose before administration to **minimize medication errors(overdose).**
- **Pediatric use**: Do not routinely administer ondansetron for mild or uncomplicated pediatric gastroenteritis or nonspecific abdominal pain in the absence of an appropriate indication.
- **Report** any suspected adverse drug reactions associated with ondansetron to the Egyptian Drug Authority through the established pharmacovigilance reporting system.

Background

Ondansetron is one of the medications most commonly used for the empiric treatment of nausea and vomiting. Ondansetron has excellent utility as an antiemetic drug, and it is effective against nausea and vomiting of various etiologies. Common uses of ondansetron include the prevention of chemotherapy-induced and radiation-induced nausea and vomiting, and the prevention of postoperative nausea and vomiting. Off-label use for the prevention of nausea and vomiting associated with pregnancy. Ondansetron acts both centrally and peripherally to prevent and treat nausea and vomiting. Central effects are mediated by the antagonism of 5-HT3 serotonin receptors in the area postrema. The area postrema, located on the floor of the 4th ventricle, contains the "chemoreceptor trigger zone." This zone detects neurotransmitters such as serotonin, toxins, and other signals and mediates the sensation of nausea and subsequent vomiting [5, 6].

Off-label use: Off-label use is the use of pharmaceutical drugs for an indication, age group, dosage, or route of administration that is not approved by the regulatory agencies and is not mentioned in the prescribing information for the drug [7].

References

1- https://lms.ehc.gov.eg/lms/mod/book/view.php?id=716
2- https://pubmed.ncbi.nlm.nih.gov/38311315/
3- https://www.sciencedirect.com/science/article/pii/S2588994X23000696/pdfft?md5=895a47fafd9df54a31baa597eaaaee88&pid=1-s2.0-S2588994X23000696-main.pdf
4- https://clinicalguidelines.scot.nhs.uk/ggc-paediatric-guidelines/ggc-paediatric-guidelines/emergency-medicine/acute-gastroenteritis-management-in-paediatric-emergency-medicine-180/
5- https://www.ncbi.nlm.nih.gov/books/NBK499839/#article-26181.s3
6- https://www.ema.europa.eu/en/glossary-terms/label
7- https://pmc.ncbi.nlm.nih.gov/articles/PMC4743297/

Call for reporting

Healthcare professionals are asked to report any suspected adverse reactions via the Egyptian reporting system:

Name: General Administration for Pharmaceutical Vigilance

Address: 21 Abd El Aziz Al Soud Street, El-Manial, Cairo, Egypt,

Email: pv.followup@edaegypt.gov.eg
Online reporting: https://vigiflow-eforms.who-umc.org/eg/med
QR Code:

Hotline: 15301