BlueCross BlueShield
Federal Employee Program

5-HT3 ANTAGONISTS

Aloxi injection, Posfrea injection (palonosetron)
Anzemet* tablets (dolasetron)
Granisetron injection, granisetron tablets, Sancuso patch, Sustol injection (granisetron)
Ondansetron 16mg tablets*, Ondansetron 24mg tablets, Zofran, Zuplenz oral film* (ondansetron)

* Prior authorization for certain formulations applies only to formulary exceptions due to being a non-covered medication.

RATIONALE FOR INCLUSION IN PA PROGRAM

Background

Selective 5-hydroxytryptamine 3 (5-HT3) receptor antagonists are antinauseant and anti-emetic agents with little or no affinity for other serotonin receptors, making them very useful in the treatment of nausea and vomiting. Often, these agents are used in the treatment of nausea and vomiting associated with chemotherapy in the treatment of cancer, as many of these 5-HT3 receptors are located centrally in the chemoreceptor trigger zone. 5-HT3 receptors are also located peripherally on vagal nerve terminals as well as on enteric neurons in the GI tract. When activated, they stimulate GI secretions and vagal afferent discharge, which induces vomiting. 5-HT3 antagonists block this from occurring (1).

Regulatory Status

FDA-approved indications:

- Aloxi, Anzemet, Granisetron, Kytril, Posfrea, Sancuso, Sustol, Zofran, and Zuplenz are serotonin-3 (5-HT3) receptor antagonists indicated for the prevention and/or treatment of nausea and vomiting in patients receiving moderately and/or highly emetogenic chemotherapy or post-operative nausea and vomiting (2 -12).
- Ondansetron 24mg tablets are indicated for the prevention of nausea and vomiting in patients receiving highly emetogenic chemotherapy (13).

Off-label use of ondansetron for the treatment of nausea and vomiting of pregnancy during the first trimester did not increase the risk of specific birth defects (14).

Summary

Selective 5-hydroxytryptamine 3 (5-HT3) receptor antagonists are antinauseant, and anti-emetic agents with little or no affinity for other serotonin receptor, making them very useful in the treatment of nausea and vomiting. Often, these agents are used in the treatment of nausea and vomiting

BlueCross BlueShield
Federal Employee Program

5-HT3 ANTAGONISTS

Aloxi injection, Posfrea injection (palonosetron)
Anzemet* tablets (dolasetron)
Granisetron injection, granisetron tablets, Sancuso patch, Sustol injection (granisetron)
Ondansetron 16mg tablets*, Ondansetron 24mg tablets, Zofran, Zuplenz oral film* (ondansetron)

* Prior authorization for certain formulations applies only to formulary exceptions due to being a non-covered medication.

associated with chemotherapy in the treatment of cancer (1).

Prior authorization is required to ensure the safe, clinically appropriate, and cost-effective use of 5-HT3 antagonists while maintaining optimal therapeutic outcomes.

References

1. Drug Facts and Comparisons. Wolters Kluwer. https://fco.factsandcomparisons.com/lco/action/home.
2. Aloxi [package insert]. Woodcliff Lake, NJ: Eisai Inc.; December 2015.
3. Anzemet [package insert]. Parsippany, NJ: Validus Pharmaceuticals LLC; June 2021.
4. Granisetron injection [package insert]. Schaumburg, IL: Sagent Pharmaceuticals; February 2016.
5. Kytril [package insert]. Nutley, NJ: Roche Laboratories Inc.; March 2010.
6. Sancuso [package insert]. Bedminster, NJ: Kyowa Kirin, Inc.; September 2024.
7. Sustol [package insert]. San Diego, CA: Heron Therapeutics; June 2023.
8. Zofran injectable [package insert]. Research Triangle Park, NC: GlaxoSmithKline; March 2017.
9. Zofran oral [package insert]. East Hanover: NJ: Novartis Pharmaceuticals Corporation: October 2017.
10. Zuplenz [package insert]. Raleigh, NC: Fortovia Therapeutics Inc.; August 2021.
11. Ondansetron [package insert]. New Brunswick, NJ: Lifsa Drugs LLC; June 2024.
12. Posfrea [package insert]. Parsippany, NJ: Avyxa Pharma, LLC; July 2024.
13. Ondansetron [package insert]. Bachupally, India: Dr. Reddy's Laboratories Limited; May 2021.
14. Parker, S.E., et al. Ondansetron for Treatment of Nausea and Vomiting of Pregnancy and the Risk of Specific