Cost Savings impact and effectiveness of palonosetron institutional maximum dose of 250 mcg (0.25 mg) in pediatric patients less than 17 years of age when used for prevention of chemotherapy induced nausea and vomiting

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BACKGROUND

- Chemotherapy induced nausea and vomiting (CINV) is the most common side effect experienced when starting chemotherapy treatment.
- Pediatric patients are at higher risk of nausea and vomiting due to age and administration of aggressive chemotherapy regimens.
- Palonosetron is a 5-HT3 receptor antagonist used for the prevention of CINV, and guidelines recommend its use as part of the 3-drug combination (palonosetron, dexamethasone, and aprepitant/fosaprepitant) for high emetic risk antineoplastic agents.
- In patients receiving moderately and low emetogenic chemotherapy, 5-HT3 receptor antagonists, like palonosetron play a key role in the prevention of acute CINV.
- Palonosetron dosing recommendations: patients 1 month old to less than 17 years of age: 20 mcg/kg IV as a single dose, 30 minutes prior to the start of chemotherapy; max dose: 1,500 mcg.
- Our institution has a system wide anti-emetic policy for pediatric oncology patients and lists palonosetron as part of the therapy for the prevention of CINV of all emetogenic potentials (high, moderate, low).
- The guideline states that the recommended max dose for palonosetron is 1500 mcg (6 vials), but the provider may opt to order the “institutional max dose” of 250 mcg (1 vial).

OBJECTIVES

- Evaluate cost savings with the use of an institutional max dose of palonosetron in patients who would have exceeded the institutional maximum dose of 250 mcg; based on their weight
- Assess the effectiveness of preventing CINV with the institutional maximum dose

METHODS

- A retrospective chart review was performed
- Timeframe of the review: June 2020 to June 2024
- Inclusion Criteria:
  - Age: greater than 1 month of age and less than 17 years old
  - patients weighing greater than or equal to 12.5 kg
  - Diagnosed with an oncologic malignancy
  - Received palonosetron as part of their anti-emetic regimen in the outpatient pediatric oncology clinic.

RESULTS

52 patients identified (300 encounters)

12 patients excluded

40 patients met criteria

- 215 encounters
- 1 dose/vial per encounter administered

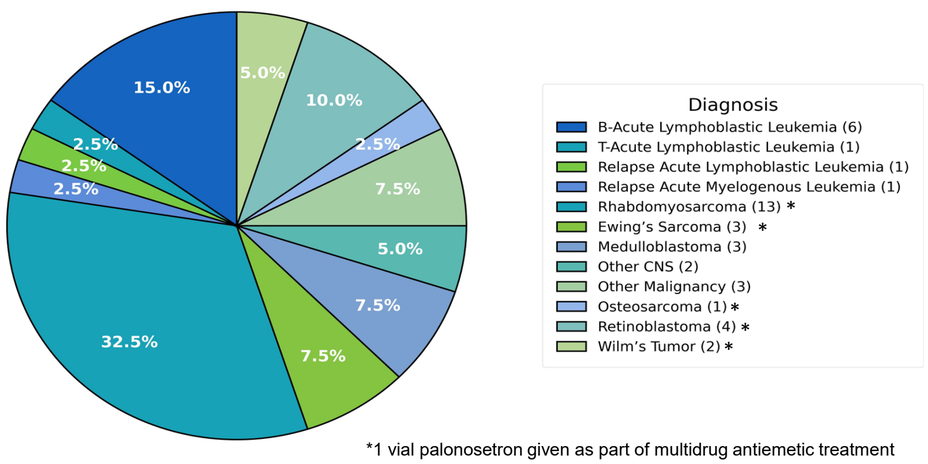
TOTAL COST SAVINGS:17%

215 vials (institutional max dose)

vs 1290 vials (recommended max)

No breakthrough or delayed CINV with use of institutional max dose either alone or in combination with other anti-emetics

Patient Diagnoses Distribution (n=40)



*1 vial palonosetron given as part of multidrug antiemetic treatment

CONCLUSION

- Use our institutional max dose of palonosetron has shown to be cost effective for formulary management as well as offer appropriate CINV prevention
- This review may serve as a template to institutions who have a limited budget for their formulary.

DISCUSSION

- Institution Pediatric Antiemetic guideline was approved for use in June 2020
- Timeframe reviewed included the pandemic years, during that time there was a significant decrease in patients receiving treatment in the clinic

LIMITATIONS

- Retrospective chart review
- Limited number of patients reviewed
- Only patients receiving treatment in the pediatric outpatient clinic were included

DISCLOSURES

All authors of this presentation have nothing to disclose concerning possible financial or personal relationships wit commercial entities that may have direct or indirect interest in the subject matter of this presentation.

REFERENCES

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