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Assessing the Use of Pre-Treatment Medications in the Management of Infusion-Related Reactions in an Outpatient Infusion Center

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Introduction

- Infusion-related reactions (IRRs) are well-known adverse drug reactions of many biological agents and antineoplastic medications.[1]
- While typically mild-to-moderate in intensity, IRRs can be severe, with potentially life-threatening consequences requiring urgent interventions.[2]
- Appropriate use of pre-treatment medications, such as corticosteroids, antihistamines, intravenous fluids, and antiemetics reduces the incidence and severity of IRRs.[2]

Purpose

- **Evaluate the use of pre-treatment medications in patients who experienced IRRs at an outpatient infusion center**
- **Identify opportunities to improve treatment plans and reduce the occurrence of IRRs**

Methods

- IRB-approved, retrospective chart review from January 1, 2020 through July 31, 2021

Inclusion Criteria	Exclusion Criteria
Received a medication ordered from the hypersensitivity reaction order set for an IRR	Received infusion therapy at a site other than the St. Cloud Hospital (SCH) outpatient infusion center
Age ≥ 18 years	Patient did not experience an IRR

- **Primary outcome:** Adherence with designated pre-treatment plan
- **Secondary outcomes:** Incidence of IRR per medication, grade 3 IRRs, discontinuation of treatment and transfer to hospital for IRR

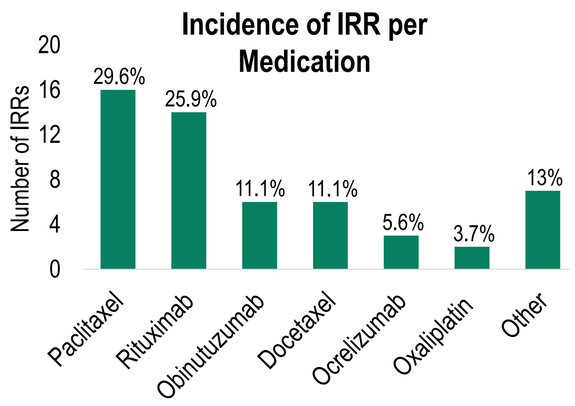
Results

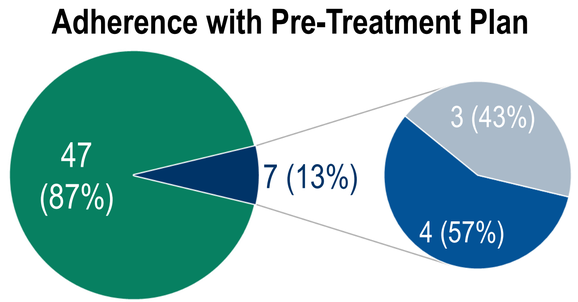
58 Screened

→ **4 Excluded**
- 1 did not experience an IRR
- 3 received infusion therapy at external site

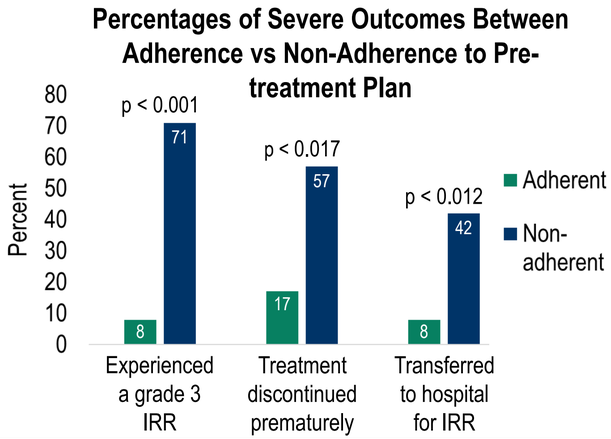
54 Included

Patient Characteristics	
Age, years, median, [IQR]	62 [53-74]
Female, n (%)	32 (59.3)
Caucasian, n (%)	52 (96.3)
Prior history of an IRR, n (%)	3 (5.6)
Indication for infusion therapy	
Solid malignancy, n (%)	29 (53.7)
Hematologic malignancy, n (%)	21 (38.9)
Autoimmune disease, n (%)	4 (7.4)





Outcomes	
Time between pre-treatment medications and start of infusion (min), median, [IQR]	40 [36.25- 59.5]
Successfully completed treatment, n (%)	42 (77.8)
Treatment discontinued prematurely, n (%)	12 (22.2)
Transferred to hospital for IRR, n (%)	7 (13)
Experienced a Grade 3 IRR, n (%)	9 (16.7)



Evaluation

- Medication dosing was not a contributing factor to non-adherence. All pre-treatment medications given by staff were administered at protocol specified doses.
- Reasons for non-adherence to pre-treatment plans included insufficient time between staff administration of pre-treatment medications and treatment start time and patient non-adherence to take-home pre-treatment medications.
- Medications with high rates of IRRs included paclitaxel and rituximab, which is consistent with literature.
- Non-adherence with pre-treatment plans resulted in significantly higher rates of grade 3 reactions, premature discontinuation of treatment, and hospitalization for an IRR.

Conclusion

- **There are opportunities to improve adherence to pre-treatment plans for patients receiving infusion therapy at the SCH outpatient infusion center.**

References

1. Cáceres MC, Guerrero-Martín J, et al. The importance of early identification of infusion-related reactions to monoclonal antibodies. *Ther Clin Risk Manag*. 2019; 15:965-77.
2. Tham EH, Cheng YK, et al. Evaluation and management of hypersensitivity reactions to chemotherapy agents. *Postgrad Med J*. 2015; 91:145-50.

Disclosure

Authors of the presentation disclose the following relationships with commercial interests related to the subject of this poster.

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