Evaluation of Rituximab Use at Parkview Health

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EVALUATION OF RITUXIMAB USE AT PARKVIEW HEALTH

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OBJECTIVE

- Characterize the use of rituximab at Parkview Health by differentiating between inpatient and outpatient use as well as evaluate indications for use, incidence of documented infusion reactions, and biosimilar use.

BACKGROUND

- Rituximab is a monoclonal antibody targeting the CD20 surface antigen on pre-B and mature B-lymphocytes and mediates B cell lysis.
- FDA-approved indications for rituximab include adult Non-Hodgkin’s Lymphoma (NHL), pediatric mature B-cell NHL and B-cell Acute Leukemia in patients 6 months and older, adults with Chronic Lymphocytic Leukemia (CLL), Rheumatoid Arthritis (RA), Granulomatosis with Polyangiitis (GPA) and Microscopic Polyangiitis (MPA), and moderate to severe Pemphigus Vulgaris (PV).
- Rituximab also has many off-label indications including other hematologic malignancies, antibody-mediated organ rejection, and autoimmune conditions.
- Although not approved as interchangeable, there are three FDA-approved biosimilars (rituximab-pvvr, rituximab-abbs, rituximab-arrx).
- To prevent hypersensitivity reactions, pretreatment with an antihistamine and corticosteroid is recommended.
- Hepatitis B virus (HBV) screening prior to rituximab initiation is important to prevent reactivation.
- For some indications, rapid rituximab infusions can be used for subsequent infusions after an initial tolerated infusion.
- Rapid infusion: 20% of the dose is given over 30 minutes and the remaining 80% is given over 60 minutes.

METHODS

- Retrospective study of data collected from the electronic health record.
- Subset of data was manually validated for accuracy.
- Study was approved by the Parkview Health Institutional Review Board (IRB).
- Inclusion Criteria:
  - All patients who received at least one dose of reference rituximab or rituximab biosimilars from May 1, 2020 through April 30, 2022 at any hospital or outpatient infusion location within the health system.
- Exclusion Criteria:
  - Patients who received rituximab hyaluronidase during the study time frame.
  - Patients who received a combination of a biosimilar and reference product.
  - Patients who received a rapid infusion for any of their doses.
- Appropriate premedication: defined as any dose of acetaminophen and diphenhydramine given by any route within 120 minutes prior to infusion start.
- Infusion reactions reported in literature ranges from 12% to 77% depending on the indication.
- Protocol usage was most common with FDA-approved indications; it may be beneficial to develop rituximab protocols for common off-label indications.
- This evaluation demonstrated the importance of standardized protocols and orders to increase premedication utilization and HBV testing compliance.

RESULTS

- 292 patients screened for inclusion, 9 excluded, 283 patients included for analysis for a total of 1255 doses.

REFERENCE


DISCUSSION & CONCLUSIONS

- The most common FDA-approved indications for rituximab use were DLBCL, Follicular Lymphoma Grade I/II, NHL, and ANCA-vasculitis.
- The most common categories of off-label uses were hematologic and nephrotic syndromes.
- The incidence of infusion reactions reported in literature ranges from 12% to 77% depending on the indication. In this study, 20.1% of patients in this study had an infusion reaction.
- Doses ordered from an oncology protocol had a higher prevalence of complete HBV testing compared to those ordered separately.
- Doses ordered from an oncology protocol had a higher prevalence of appropriate premedication given (96.8% vs 88.8% respectively).
- Protocol usage was most common with FDA-approved indications; it may be beneficial to develop rituximab protocols for common off-label indications.
- With expanding utilization of rituximab and biosimilars, standardization documentation will be necessary to track appropriate usage and patient outcomes.
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- Limitations
  - Manual chart search for indication was limited by physician phrasing of diagnoses. Documentation of infusion reactions was variable.
  - Some patients may have received first doses outside of the study period which impacts infusion-related reaction rates.
  - Premedication with corticosteroid was not assessed due to a portion of patients receiving steroids at home prior to infusion.
  - This evaluation demonstrated the importance of standardized protocols and orders to increase premedication utilization and HBV testing compliance.

- The authors of this presentation have the following to disclose concerning possible financial or personal relationships with commercial entities that may have a direct or indirect influence on the presentation.
- The authors have no financial relationships to disclose. Jamie Gaul has been serving on the data steering committee for the SCD6 Registry study, which is funded by the National Institutes of Health.