High-Titer IVIG 10% (Human)–slra Reduces Infections and Hospitalizations Over 6 to 12 Months

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Introduction

High-titer IVIG products are enriched with pathogen-specific antibodies (e.g., RSV, influenza), offering targeted immune protection beyond standard IVIG. They may provide benefit for immunodeficient patients with recurrent respiratory infections who fail conventional IVIG. This quality improvement (QI) review evaluates real-world outcomes in patients switched to high-titer IVIG.

Objectives

- Understand the clinical impact of high-titer IVIG.
- Evaluate trends in infection frequency, hospitalization rates, and symptom improvement over a six-month period.
- Identify patient populations who may benefit most from high-titer IVIG therapy.
- Recognize the importance of longitudinal monitoring when initiating new IVIG therapies, via tracking infections, medication use, and patient-reported outcomes.

Methods

- **Design:** Retrospective QI review.
- **Population:** 14 patients with primary or secondary immunodeficiencies.
- **Period:** May 2023 – July 2024.
- **Data collected: (Table 1, 2, 3)**
  - Demographics
  - Clinical & diagnostic data, immunologic testing
  - Reason for use and infectious history
  - Infection frequency (6 months pre vs. post initiation)
  - Hospitalization rates
  - Prior IVIG use and adverse effects
  - Antibiotic/steroid usage
  - Patient-reported outcomes
- Statistical analysis conducted via Microsoft Excel.

Table 1, 2, 3.

Results

- Patients with prior IVIG failure, severe asthma, bronchiectasis, or immunodeficiencies reported clinical improvement and fewer exacerbations.
- One patient was an outlier with frequent infections and hospitalizations due to comorbidities. Secondary analysis excluded this outlier (Figure 3) to better assess treatment effect; exclusion highlighted greater reduction in infection burden and hospitalizations.

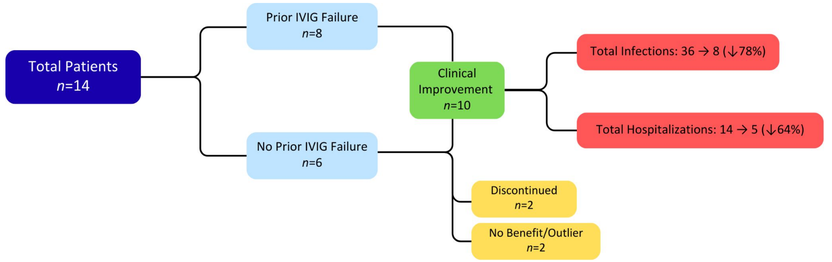

Figure 1. Patient flow, outcomes, and clinical impact of high-titer IVIG (n=14)

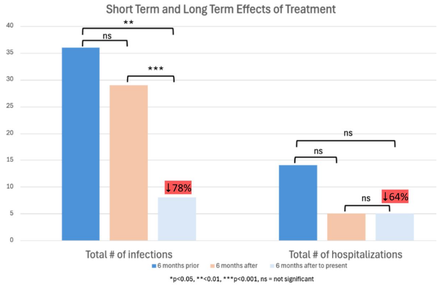

Figure 2. Short and long term effects of high-titer IVIG (human)–slra 10% treatment

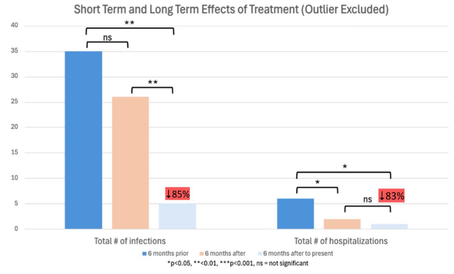

Figure 3. Short and long term effects of high-titer IVIG (human)–slra 10% treatment with outlier excluded

Discussion

- High-titer IVIG may be an effective treatment for patients immunodeficient patients with recurrent respiratory infections (RRIs), especially those unresponsive to standard IVIG.
- Most patients in our cohort who failed conventional IVIG improved significantly within 6 months of switching to high-titer IVIG, indicating a favorable clinical response.
- Targeted formulations of high-titer IVIG products, enriched with pathogen-specific antibodies (e.g., RSV, influenza) offer targeted protection and may enhance immune clearance mechanisms in patients with bronchiectasis, chronic lung disease, and B-cell deficiencies.
- Despite limitations (small sample size, retrospective design, short follow-up), results support high-titer IVIG as a promising option for managing high-risk immunodeficient patients with RRIs.
- Larger, prospective studies are warranted to validate these findings and define optimal candidates for this targeted therapy.

Conclusions

- High-titer IVIG may reduce infections and hospitalizations in immunodeficient patients unresponsive to standard IVIG.
- Benefits were most notable in those with chronic lung disease, bronchiectasis, or frequent viral infections.
- The greatest reduction in infections and hospitalizations was seen after 1 year.
- Targeted antibody coverage offers a promising personalized approach.
- Further studies are needed, but early results support clinical use in high-risk cases.

References