Infusion parameters and demographics of patients with chronic inflammatory demyelinating polyneuropathy during subcutaneous immunoglobulin self-administration training

Elyse Murphy[1], Chris Vanname[2], Robert McNeill[1], Melody Bullock[1], Ayman Kafal[1]

[1]CSL Behring LLC, King of Prussia; [2]Specialty Pharmacy Nursing Network (SPNN) Inc.

Introduction

CHRONIC INFLAMMATORY DEMYELINATING POLYNEUROPATHY (CIDP)

- CIDP is an autoimmune-mediated peripheral neuropathy, affecting sensory and/or motor nerves, which can run a progressive or relapsing-remitting course[1]
  - Older adults seem to be more at risk of developing CIDP[2]

CIDP TREATMENT

- Immunoglobulin G (IgG) therapy is a common first-line treatment for CIDP and can be administered either intravenously (IVIg) or subcutaneously (SCIg)[1,3,4]
  - SCIg is approved for maintenance therapy in adults with CIDP and, compared with IVIg, may provide some benefits such as fewer systemic adverse events (AEs) and no requirement for venous access[5]
- Patients undergo SCIg self-administration training and the quality of this training plays an important role in mastery of the infusion technique and retention on SCIg therapy[6]

Methods

- This was a retrospective observational study using Specialty Pharmacy Nurse Network (SPNN) data on self-administration training, infusion parameters, and discontinuations in patients with CIDP transitioning to SCIg
  - The dataset presented here was collected between April 2018 – *December 2019 (*updated since abstract submission)
  - Data was stratified by age for further analysis; adults (18–64 years) and older adults (≥65 years old)
- Infusion parameters captured included infusion volume and rate per site and number of sites
- The prescribing information (PI) for CIDP recommends a maximum volume and rate of ≤50 mL/site and ≤50 mL/hr/site

Objective

- **To analyze SCIg training data in patients with CIDP transitioning to SCIg to better understand infusion parameters and optimization during training**

Results

COHORT CHARACTERISTICS

- Data was collected on 310 patients with CIDP; of these, training was successfully completed by 279 patients (90.0%), over 1–7 training visits
  - The remaining 31 patients (10.0%) discontinued SCIg during training, with the most common reason cited as AEs (n=18), mainly headache and nausea
- Of completers, 197 (70.6%) were adults and 82 (29.4%) were older adults
- Of completers, 45.5% required >3 training visits (41.1% and 56.1% of all adults and older adults, respectively) **(Figure 1)**
- Of completers, 234 (89.3%) increased their Infusion volume and 202 (72.4%) increased their infusion rate by final visit

AVERAGE INFUSION PARAMETERS AT FINAL VISIT

- Final infusion parameters were similar irrespective of age (**Table 1**)
- Patients increased their infusion volume by 75.5% between first and final visit (adults, +74.4% and older adults, +77.9%)
- Patients increased their infusion rate by 29.1% between first and final visit (adults +30.9%, and older adults +24.7%)
- Over half (53.7%) reduced the number of sites required by ≥1 (55.3% and 50.0% of adults and older adults, respectively)
- Most patients infused below the maximum recommended parameters in the PI for CIDP (on average, 15 mL/site below max volume, 27 mL/hr/site below max rate) (**Figure 2**)

Conclusions

- **Most patients with CIDP require 3–4 training visits to learn to self-administer SCIg independently**
- **On average, patients increased their infusion rate/volume by their final training visit**
- **The majority of patients were not infusing at, or close to, the PI recommended maximum parameters**
  - **Optimizing infusion parameters (fewer sites/increased rate) may take >4 weeks**
  - **Patient education during training on how rates and volumes can be maximized may be key to continuing to optimize patient infusions**

Table 1: SCIg infusion parameters at first and final training visits

	Adults, n=197 (18–64 years)		Older adults, n=82 (≥65 years old)	
Training visit	First	Final	First	Final
Infusion vol. (mL/site)	19.9 (4.4)	34.8 (8.3)	20.2 (5.3)	35.8 (8.6)
Infusion rate (mL/hr/site)	17.9 (4.4)	23.5 (4.3)	18.5 (4.3)	23.1 (4.4)
Infusion sites	4	2	4	3

All values are mean (SD) apart from infusion sites (mode)

Figure 1: Number of training visits required to independently use SCIg

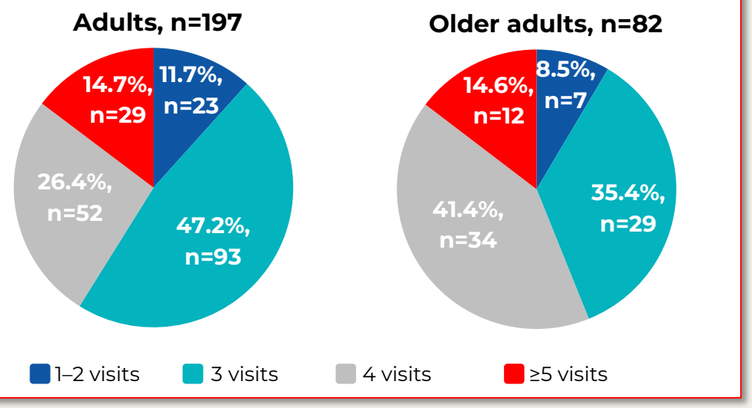
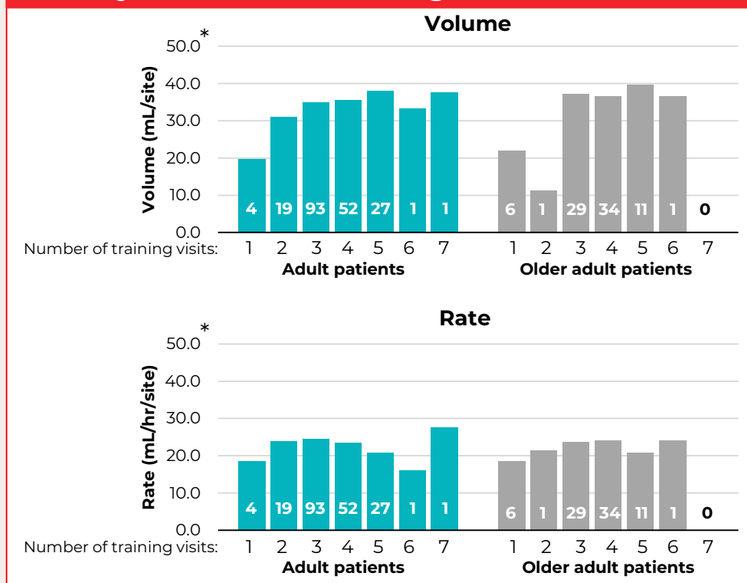


Figure 2: Average infusion parameters at final visit by number of training visits



*Maximum recommended infusion volume per site and rate per site

Numbers inside bars represent numbers of patients completing training at that training visit (total cohort n=279, adult patients n=197, older adult patients n=82)

Disclosures

The analysis, interpretation and writing of the poster for this study was funded by CSL Behring.

Acknowledgements

Editorial assistance was provided by Meridian HealthComms Ltd, funded by CSL Behring.

References

1. Oaklander AL, et al. *Cochrane Database Syst Rev*. 2017;1:Cd010369.
2. Broers MC, et al. Neuroepidemiology. 2019;52(3-4):161–172.
3. Hughes RA, et al. *Lancet Neurol*. 2008;7(2):136–144.
4. van Schaik IN, et al. *Lancet Neurol*. 2018;17(1):35–46.
5. Allen JA, et al. *J Neurol Sci*. 2020;408:116497.
6. Suleman A, et al. *Can J Neurol Sci*. 2019;46(1):38–43.

Presented at the American Association of Neuromuscular & Electrodiagnostic Medicine (AANEM) online meeting, 7–10 October 2020.