How collaboration with a university institution and a home infusion pharmacy provided positive clinical outcomes to support site of care home infusion initiatives for infusion therapy services

Ashley Banks, DNP, RN; Lou Anne Epperson, MSN, RN, IgCN

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BACKGROUND

Patients who had received infusion suite-based infusions needed an alternative care setting during the SARS-COV-2 pandemic. Ocrelizumab (OCR) has been delivered to patients at home; this study was important to reinforce the safety and positive outcomes for patients receiving this therapy using a two-hour infusion protocol as a safe alternative to an outpatient treatment facility.

PURPOSE

To demonstrate the impact of collaboration and standardized nursing education between the university institution and the home infusion pharmacy service on clinical outcomes for the home infusion patient.

METHODS

- Communication between the university institution and the home infusion pharmacy was initiated to create a home infusion program for 100 MS patients who had received one complete 600mg dose of Ocrelizumab.
- Electronic record systems between the two organizations were synchronized, and education was provided by the university nurses to the home infusion nurses.
- Home infusion nurses attended two separate presentations via video call. Module 1 included an overview of the study protocols, roles and responsibilities of home infusion nurse, difference between research nursing and standard of care nursing practice, and protocol deviations and how to report them. Module 2 included the difference between standard infusion and shorter infusion protocols, how to recognize and document IRR's, share patient safety insights and expectations based on personal experiences with two-hour infusion protocols, and how to complete study documentation successfully.
- Weekly meetings between the two organizations began in 2000 to implement the approved study design and implement a delivery and scheduling process. The first patient was infused in March 2021 and the last patient of the study group received their infusion in January 2022.

DISCUSSION

Ocrelizumab is safe to provide in the home and creates positive patient experiences. Home infusions have been occurring for years; however, some specialty medications have only been given in an infusion suite. This study exemplifies that an infusion pharmacy and university medical center can collaborate to provide safe, positive patient experiences for patients in their homes. Post study patients reported to MDs and the university that they preferred their infusions in the home. Additional studies could be completed to assess patient quality of life, satisfaction, physician satisfaction and by in and safety of other medications typically administered in an infusion suite.

Infusion related reactions was based on NCI CTAE table.

RESULTS

Table 1. Current Enrollment	N
Number of patients chart reviewed	925
Number of eligible patients contacted	312
Final study consent signed	105
Completed infusions	99
Completed final study visit	97

Table 2. Patient Demographics and Clinical Characteristics	N=99
Patient Characteristics	
Age, mean (SD) [range], years	42.3 (7.7) [25.7-55.5]
PDDS, median (IQR)	1 (0, 2)
Female, n (%)	72 (72.7)
Race, n (%)	
White	91 (91.9)
Black	4 (4.0)
Asian	0 (0.0)
Native American	0 (0.0)
Other	4 (4.0)
Ethnicity, n (%)	
Non-Hispanic	96 (97.0)
Hispanic	3 (3.0)
MS Type, n (%)	
RRMS	95 (96.0)
PPMS	4 (4.0)
MS disease duration, mean (SD), years	9.1 (6.5)
Years receiving Ocrelizumab, mean (SD)	3.0 (1.0)

Patients were excluded from participation in this study if their most recent infusion was completed in the home, experienced a serious IRR (>Grade 3) during a prior Ocrelizumab infusion, were pregnant on the day of infusion or intended to become pregnant before study completion, or were breastfeeding at time of final study consent or before the end of the study.

Figure 1. IRR Frequencies

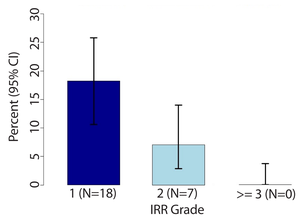

Table 3. IRR Frequencies	
IRR Grade, n (%)	**N=99**
Any IRR	25 (25.25%)
Grade 1 IRRs	18 (18.18%)
Grade 2 IRRs	7 (7.07%)
Grade 3 IRRs	0 (0.00)
Grade 4 IRRs	0 (0.00)
Grade 5 IRRs	0 (0.00)

- 74.75% of infused patients (N=99) did not experience an infusion related reaction

Grade 1: mild reaction [transient flushing or rash; drug fever <38°C], infusion interruption not indicated or intervention not indicated.

Grade 2 reaction that requires therapy or infusion interruption, but responds promptly to symptomatic treatment [eg, antihistamines, nonsteroidal anti-inflammatory drugs or narcotics] or prophylactic medications indicated for 24 hours

CONCLUSIONS

Study findings reinforce the safety of home administration of Ocrelizumab, and also reinforce the positive responses of these patients. This information will be useful for physicians who have not yet prescribed this therapy for patients in their homes, and also illustrates the safety and efficacy of home-based infusions of Ocrelizumab for payers. Not only did patients experience positive outcomes, but an end result was also greater physician engagement in home infusion.

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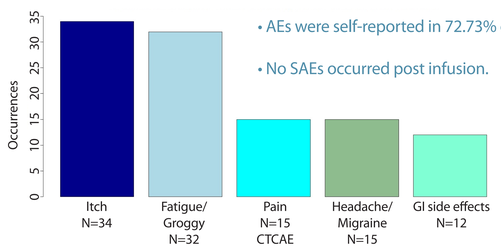
Figure 2. Most Common Self-Reported CTCAEs



- AEs were self-reported in 72.73% of patients.
- No SAEs occurred post infusion.

Figure 3. Mean (95% CI) Pre-Post PROs

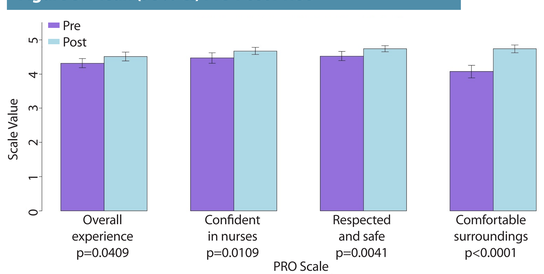
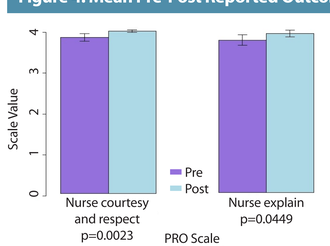


Figure 4. Mean Pre-Post Reported Outcomes (95% CI)



- On a scale from 0-10, with higher being better, patients reported having a better experience with their home infusion of Ocrelizumab (mean = 9.0, SD = 1.2) compared to their treatment at an infusion center (mean = 8.4, SD = 1.7, p = 0.0046)

1. OCREVUS (Ocrelizumab injection, USP) U.S. Package Insert. Genentech.
2. Polinski JM, Kowal MK, Gagnon M, et al. Home infusion: Safe, clinically effective, patient preferred, and cost saving. Healthcare 2017; 5: 68–80.