

## QUALITY OF LIFE AND COST-EFFECTIVENESS OF TRANSITIONING FROM INTRAVENOUS TO SUBCUTANEOUS VEDOLIZUMAB IN A VETERAN POPULATION: A PROSPECTIVE STUDY

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### Background:

Inflammatory bowel disease (IBD) is a chronic condition that can impact quality of life (QoL) often causing significant disability and financial burden. Traditionally administered through intravenous (IV) infusions, vedolizumab (VDZ) is a biologic used to treat moderate to severe IBD. Recently, the U.S. Food and Drug Administration approved a subcutaneous (SC) formulation of VDZ for self-administration. We hypothesize that transitioning patients from IV to SC formulations will improve patients' QoL by limiting the burden of time spent at an infusion center while also reducing infusion-related costs.

### Methods:

In a single center quality improvement initiative and cost-effectiveness analysis - patients at the Minneapolis Veterans Affairs Medical Center who were on IV VDZ for ulcerative colitis (UC) or Crohn's disease (CD) were prospectively contacted and offered a transition to SC VDZ (July-October 2024) as well as participation in this study. Outcomes included the proportion of patients who agreed to transition, reasons for declining, and impact of infusions on work and life. We used the IBD-control-8 questionnaire for QoL assessment, the Simple Clinical Colitis Activity Index (SCCAI), and Crohn's Disease Activity Index (CDAI) for clinical assessment of disease activity. Costs related to medication, supplies and personnel for administration were compared between the two routes. Continuous variables were reported as mean (standard deviation) if normally distributed, and as median (interquartile range) if data distribution was skewed.

### Results:

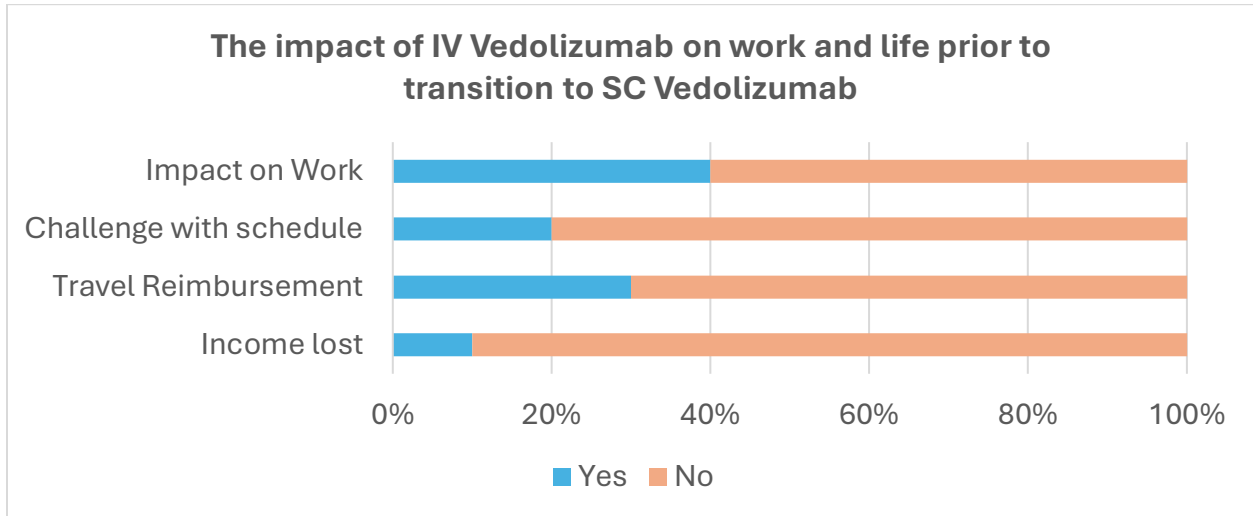
Of 14 patients on IV VDZ, 10 (71.4%) agreed to transition to SC VDZ (mean age: 54.7 years, 80% male, UC: 7, CD: 3) (**Table 1**). Reasons for denial of the transition included fear of ineffectiveness (N=3) and needle aversion (N=1). Results of the impact on work and life questionnaire are listed in **Figure 1**. The mean distance of travel for the infusion was 12.5 (6.5-26.3) miles resulting in 3.5 (1) hours patients spent on each session. Mean IBD-control-8 questionnaire for QoL prior to the switch was 13.8/16. All, except one patient, were in clinical remission at baseline (90%), as assessed by SCCAI for UC and CDAI for CD. Based on the standard IV regimen every 8 weeks and SC every 2 weeks, the annual maintenance cost, including direct and indirect costs, was higher in SC than IV formulation by \$1594.

### Conclusion:

71.4 % of patients on IV VDZ agreed to switch to SC VDZ. All, except one patient, was in remission at the time of the switch and the main reason to decline was fear of losing response with the SC formulation. Although the annual maintenance cost was slightly higher in SC than IV formulation, the transition to SC reduces the patients' time committed to medical care and improves the

infusion center's accessibility. A follow-up is planned to determine the effect of switching from IV to SC VDZ on patients' disease activity and QoL.

**Figure 1.** The impact of intravenous vedolizumab on work and life prior to the transition to subcutaneous formulation



\* The Veterans Health Administration offers reimbursement through Travel Pay per mileage.

**Table 1.** Demographics of patients on intravenous (IV) vedolizumab who agreed to transition to subcutaneous (SC) formulation

<b>Baseline characteristics</b>	<b>Total (N=10)</b>
Age (mean ± SD)	54.7 ± 16.9
<b>Sex</b>	
Male	8 (80%)
Female	2 (20%)
<b>Race</b>	
White	8 (80%)
Black or African American	1 (10%)
Other	1 (10%)
<b>Inflammatory bowel disease</b>	
Ulcerative colitis	7 (70%)
Crohn's disease	3 (30%)
Interval of the intravenous infusion (weeks)	Every 6 weeks (40%) Every 8 weeks (60%)
Duration on IV vedolizumab prior to transition to SC (months, median (IQR))	36 (17-74)
Means of travel to infusion center	Self (90%) Family (10%)
Main concern regarding the transition	Self-injection (20%) Storage (10%) Efficacy (10%) Adverse events (10%) None (50%)

Abbreviations: standard deviation (SD), interquartile range (IQR)