Tofacitinib versus Vedolizumab Among Bio-naïve Patients With Ulcerative Colitis: A Real-World Propensity-Weighted Comparison

Introduction:

Over the last decade, treatment options for moderate-to-severe ulcerative colitis (UC) have expanded. However, comparative studies between these agents are limited, especially among biologic naïve patients. There are sparse data comparing biologics with small molecules for IBD. We aimed to compare the efficacy, safety and persistence of tofacitinib and vedolizumab as the first advanced treatment for patients with UC.

Methods:

Patients who received tofacitinib or vedolizumab as first advanced therapy for UC in NHS Lothian were included. We capped the upper age limit at 65 years to take into account regulatory guidelines for the use of JAKi as first line therapies across IMIDs. To allow treatment effect to be assessed outside of a randomized trial, we used inverse probability of treatment weighting (IPTW). This approach takes the probability of treatment assignment into account without potentially drastically reducing the analysable cohort size. The probability of treatment assignment was calculated via logistic regression using age, gender, IBD duration, Montreal extent, CRP, concomitant corticosteroids and partial Mayo score at drug commencement. Missing data for these variables were imputed using multivariate imputation by chained equations. Confounder-adjusted survival curves were created using Kaplan-Meier estimates weighted via IPTW. The Pepe and Fleming test was used to compare survival curves from drug commencement to day 1000 of treatment.

Results:

We included 158 patients of whom 81 (51.2%) received vedolizumab and 77 (48.7%) tofacitinib. Median follow-up for patients on vedolizumab was 3.1 (1.6-4.8) years and for tofacitinib 1.5 (0.34-2.3) years. Baseline demographics were comparable except for disease extent (Montreal E3 58% vedolizumab versus 31.2% tofacitinib, p=0.001). At drug commencement there were no differences in steroid prescription (60.5% vedolizumab versus 57.1% tofacitinib), partial Mayo score, CRP or faecal calprotectin. At week 12, steroid free clinical remission was more frequent in the vedolizumab group (69% vs 51.4%, p=0.030) Figure 1B.

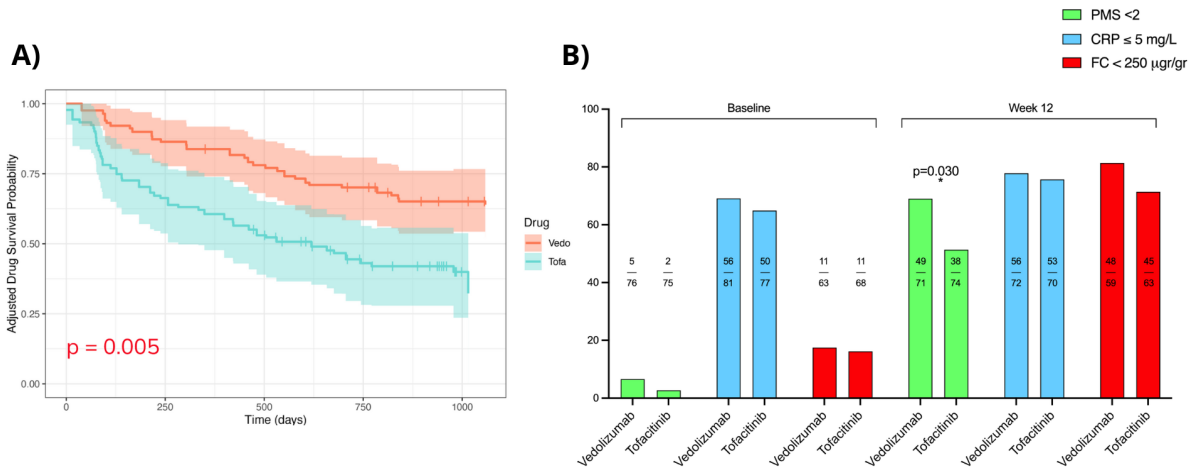
Vedolizumab persistence was superior to tofacitinib (p=0.005) Figure 1A. Primary non-response and secondary loss of response were 9.9% and 17.3% for vedolizumab and 23.4%

and 13% for tofacitinib respectively. There were no differences in the frequency of adverse events (11 [13.6%] vedolizumab vs 19 [24.7%] tofacitinib, p=0.629). However, adverse events resulting in temporary discontinuation of the drug occurred in 1 (1.2%) vedolizumab versus 11 (14.3%) tofacitinib, p=0.013.

Conclusions:

We found that the persistence and tolerability of vedolizumab was superior to tofacitinib in bionaive UC, although the rates of clinical and biomarker remission were comparable. These data may help inform positioning of advanced therapy in UC.

FIGURE 1



Adjusted Drug survival probability for tofacitinib and vedolizumab

Baseline partial Mayo score, C-Reactive protein and fecal calprotectin remission and week 12 steroid free remission