



Recurrent *Clostridioides difficile* Infection in Patients Treated With Bezlotoxumab: Systematic Review and Meta-Analysis

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Introduction

- *Clostridioides difficile* infection (CDI) remains a global health concern. Bezlotoxumab (BEZ) is a monoclonal antibody working against *C. difficile* toxin B.
- MODIFY I & II confirmed BEZ efficacy in preventing recurrent CDI (rCDI). Observational studies have since been published.
- This meta-analysis explores the consistency of BEZ effectiveness utilizing real-world data.

Methods

- A systematic review and meta-analysis to pool rCDI rate in patients receiving BEZ vs. control.
- Comprehensive search of PubMed, EMBASE, Cochrane Library, and Google Scholar from inception through January 2022.
- A proportion meta-analysis with a random-effects model was used to pool rCDI rates. Additionally, odds ratios (OR) were generated. Heterogeneity was assessed using I² statistics.

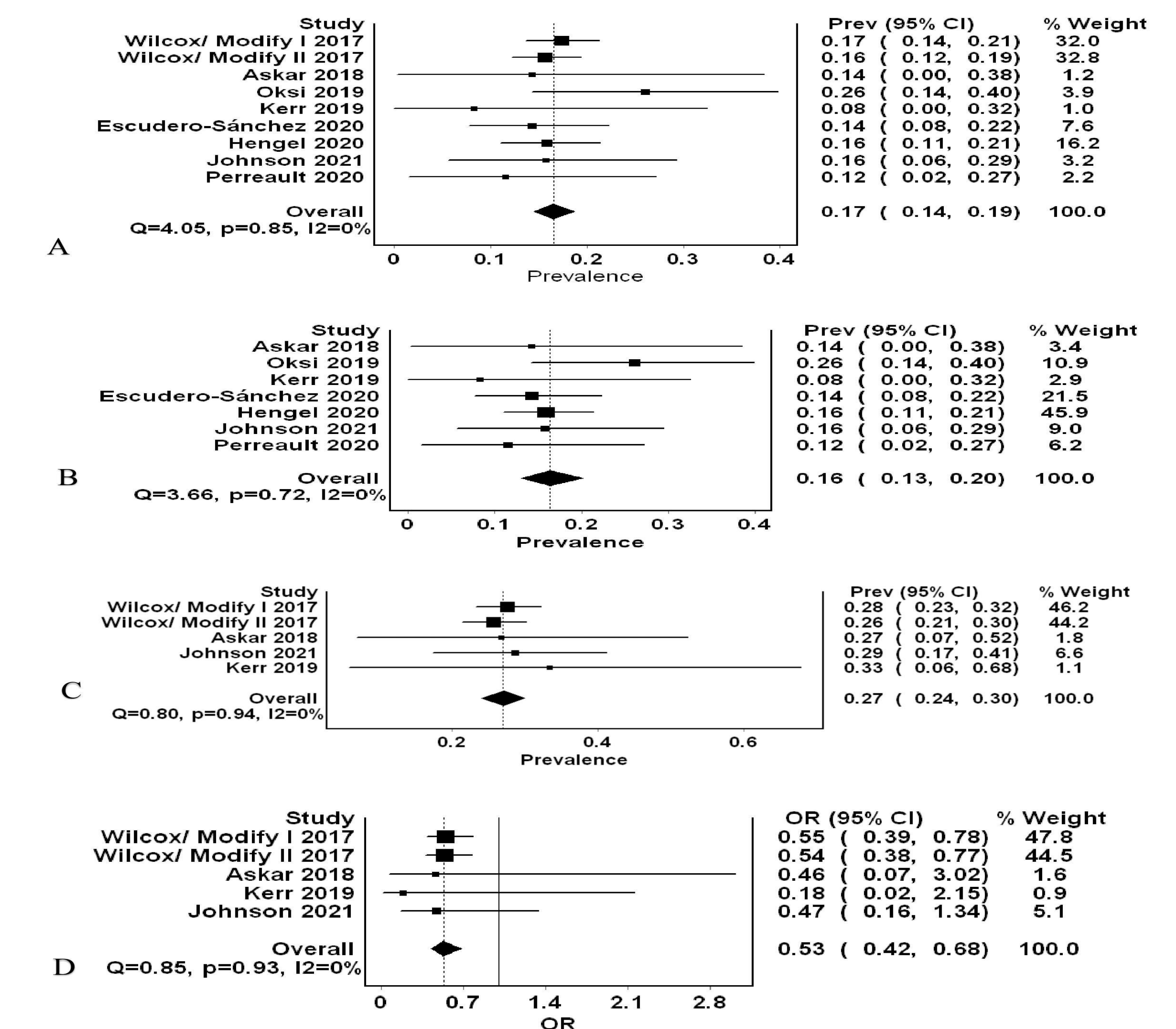
Results

- Nine studies were included in the analysis, including two RCTs and 2056 patients, of which 1203 received BEZ. Five studies (1698 patients) compared BEZ vs. SOC.
- Pooled rCDI rate in patients receiving BEZ was 17% (95% CI = 0.14-0.19, I²=0%) (Figure 1). Subgroup analysis excluding RCTs resulted in pooled frequency of 16% (95% CI = 0.13-0.20, I²=0%).
- Pooled rCDI in the control group was 27% (95% CI = 0.24-0.30, I²=0%).
- In the meta-analysis of efficacy, there was a significant reduction in rCDI in the BEZ treated group compared to controls (OR= 0.53, 95% CI = 0.42-0.68, I²=0%). No heterogeneity was shown in all analyses, as depicted by an I² of 0.

“In real-world settings, Bezlotoxumab remains effective in preventing recurrent *Clostridioides difficile* infection.”

Discussion

- Our meta-analysis comprising real-world data revealed lower rCDI in patients receiving BEZ and supported its efficacy in preventing rCDI compared to control.
- These results are in keeping with the recent ACG and IDSA guidelines that endorse a role for BEZ in preventing rCDI.



Forest plots summarizing the (A) overall pooled frequency of recurrent *Clostridioides Difficile* infections (rCDI) in patients treated with bezlotoxumab (Bez), (B) rCDI pooled frequency in patients treated with Bez utilizing real-world data only, (C) rCDI pooled frequency in standard of care (SOC) group, and (D) pooled odds ratio of rCDI in Bez treated patients compared to SOC.