Continued Use of Proton Pump Inhibitors and Risk for Recurrence of Clostridium Difficile Infection-A Retrospective study

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RESULTS

78 patients with a *Clostridium difficile* diagnosis upon admission  
16 patients were excluded due to early discontinuation of antibiotic therapy  
62 patients were included in the base cohort  
22 patients tested positive for *C. difficile* toxin  
1 patient presented to hospital for readmission for recurrent *C. difficile* infection within 90 days

**METHODS**

- A retrospective cohort study including sites at Parkview Regional Medical Center, Parkview Hospital Randallia, Parkview Dekalb Hospital, Parkview LaGrange Hospital, Parkview Wabash Hospital, and Parkview Noble Hospital was conducted for hospital admissions between January 1, 2021, to April 1, 2022.
- Inclusion criteria: Diagnosis of *C. difficile*, ≥ 18 years of age
- Exclusion criteria: Failure to complete 7-day course for the initial *C. difficile* infection, indication of gastroesophageal reflux disease or peptic ulcers
- Proton pump inhibitors (PPIs) block gastric H, K-ATPase, and inhibit gastric acid secretions. These are typically used for the indication of gastroesophageal reflux disease or peptic ulcers. PPIs can alter the gut microbiome by decreasing the acidity of the stomach allowing for potential overgrowth of normal gut colonizing bacteria.
- *Clostridium difficile* is a spore-forming, gram-positive anaerobic bacillus bacteria normally colonized in the large intestine, in physiological amounts it does not cause infection. When given the opportunity in the presence of decreased normal gut flora, *C. difficile* can overgrow and release toxins A & B causing severe diarrhea. Using PPIs before fully recovering from a *C. difficile* infection is suggested to increase patient risk of recurrent episodes for infectious *C. difficile*.

**RESULTS**

- Our study showed that the continued use of proton pump inhibitors leads to an increased risk of recurrent *Clostridium difficile* infections.
- This study did have a small sample size which decreased the statistical significance of some data points. Other patient-related factors including medication adherence could have been beneficial in determining if other confounding factors increase the risk of recurrent *C. difficile*.
- Our study showed that the continued use of proton pump inhibitor therapy did not result in patients having a higher risk of recurrence of *Clostridium difficile* infection after an initial infection. These findings are consistent with previous studies conducted by other institutions.

**REFERENCES**