

Frail Heart, Friable Colon: A Case Report of Fecal Microbiota Transplant for Refractory *Clostridium difficile* Infection in a Patient with Recent Trans-Catheter Aortic Valve Replacement

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Abstract

Background: Fecal microbiota transplant for refractory *C. difficile* infection in a patient with recent trans-catheter aortic valve replacement.

Case: A 69 year-old female patient who underwent a trans-catheter aortic valve replacement (TAVR) and previous stent placement one month prior to her presentation with refractory *Clostridium difficile* infection (CDI) who was planned for Fecal Microbiota Transplant (FMT) via colonoscopy. The patient had initially presented with seven days of diarrhea and tested positive for *C. Difficile* toxin via EIA.

Conclusion: There is limited data regarding the safety and efficacy of FMT in patients with prosthetic valves. While not a contraindication to FMT, there exists concern for bacterial translocation and subsequent endocarditis. This case illustrates the importance of FMT as a therapeutic modality for severe refractory *C. Difficile* colitis, particularly in patients with valve replacements.

Keywords Fecal microbiota transplant, FMT in TAVR, FMT for severe *C. difficile* infection, Pseudomembranous colitis, Severe *C. difficile* in prosthetic heart valves, Refractory *C. difficile* infection, Safety and efficacy of FMT in severe *C. difficile* infection

Case Report

Our patient is a 69 year-old female who underwent a trans-catheter aortic valve replacement (TAVR) and previous stent placement one month prior to her presentation with refractory *Clostridium difficile* infection (CDI) who was planned for Fecal Microbiota Transplant (FMT) via colonoscopy [1]. The patient had initially presented with seven days of diarrhea and tested positive for *C. Difficile* toxin via EIA. She had an initial leukocytosis of 21.5 K/uL with an albumin of 2.2 g/dL and creatinine of 1.24 mg/dL, classifying the patient as having severe *C. difficile* colitis. The Patient was started on intravenous Flagyl with oral Vancomycin; requiring titration up to 500mg PO every six hours. She continued to have refractory diarrhea after eight days of treatment and was subsequently trialed on Fidaxomycin for 96 h. While on Fidaxomycin, the patient continued to have greater than eight episodes of watery diarrhea daily. Given the severity of her CDI, the decision to perform FMT was made. Patient was prepared for colonoscopy and made [2].

Discussion

With the decision to undergo FMT for the patient's severe and refractory CDI, preparations were made for colonoscopy. Upon insertion of the colonoscopy, extremely friable colonic mucosa with diffuse pseudomembranous colitis was noted to be carpeting the colon up to the ascending colon (Figure 1).

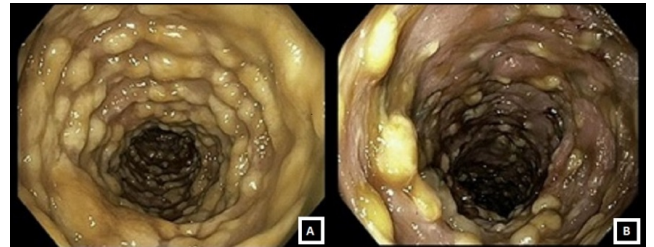


Figure 1: A. (Left) Friable mucosa and pseudomembranous colitis visualized by colonoscopy in the descending colon; B. (Right) Friable mucosa and pseudomembranous colitis visualized by colonoscopy extending more proximally into the transverse colon.

Beginning in the ascending colon, 250cc of FMT preparation (Lower Prep provided by OpenBiome) was injected into various segments of the colon via injection spray catheter during withdrawal of colonoscopy (Figure 2). Upon completion of the procedure, the patient was monitored in the inpatient setting for a period of five days. The patient's diarrhea began resolving after 48 h, and by day four she was beginning to have formed stools in addition to improvement of her laboratory findings without development of signs or symptoms worrying for endocarditis [1,2].



Figure 2: FMT preparation being dispersed via injection spray catheter under direct colonoscopy visualization beginning in the ascending colon and continuing through to withdrawal of the colonoscopy.

Conclusion

There is limited data regarding the safety and efficacy of FMT in patients with prosthetic valves. While not a contraindication to FMT,

there exists concern for bacterial translocation and subsequent endocarditis. This case illustrates the importance of FMT as a therapeutic modality for severe refractory *C. Difficile* colitis, particularly in patients with valve replacements.

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