2016

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Scholar Commons Citation
Zeitler, Kristen; Joshi, Ripal; Montero, Jose; and Alrabaa, Sally, "Fecal Microbiota Transplantation Outcomes in Immunocompetent and Immunocompromised Patients: A Single Center Experience" (2016). *Internal Medicine Faculty Publications*. 99.
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Fecal Microbiota Transplantation Outcomes in Immunocompetent and Immunocompromised Patients: A Single Center Experience
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Session: 233. Clostridium difficile: Therapeutics
Saturday, October 29, 2016: 12:30 PM

Background. Clostridium difficile infection (CDI) is a major infectious disease focus, as it has become increasingly severe with an inclination to recur in up to 20% of patients. Fecal microbiota transplantation (FMT) has been used with success in various patient populations; however, there is limited literature for its use in the immunocompromised population, including solid organ transplant (SOT) patients. We conducted a retrospective study of FMT for recurrent CDI in immunocompetent and immunocompromised patients to review outcomes at our center, with a focus on identifying risk factors for FMT failure in SOT patients.

Methods. Adult patients 18 years of age and older who received FMT for recurrent CDI from May 2014 through October 2015 were eligible for inclusion in the study. Patients were excluded from the study if they received FMT for an indication other than recurrent CDI. FMT was conducted using universal banked frozen stool via nasoduodenal tube in patients with recurrent CDI of 3 or more episodes per our institutional protocol.

Results. Thirteen patients were included in the analysis, with ages ranging from 21 to 76 years and a median age of 69 years. Six patients were immunocompetent and 7 were immunocompromised. Of the immunocompromised patients, 6 patients had a history of SOT and were primarily abdominal organs. All immunocompetent patients experienced success with FMT, while 3 immunocompromised SOT patients experienced failure. In our patients for whom a single FMT failed, they began to experience recurrent symptoms within the first few weeks post-FMT. Two of these patients with failed treatment had a second FMT, which was successful in 1 patient and failed in the second patient. One SOT patient underwent sequential FMT with success. No adverse events were noted with FMT administration. Predictors of FMT failure in SOT patients included advanced age and prolonged duration of immunosuppression.

Conclusion. This study highlights the successful use of FMT for recurrent CDI in immunocompetent patients with variable efficacy in immunocompromised patients. Additionally, FMT was shown to be safe and well tolerated across our study population. The use of sequential FMT therapy in the SOT population may be considered to optimize restoration of intestinal microbiota.

Disclosures. All authors: No reported disclosures.