Authority, Victoria, BC, Canada, [2]Pathology and Molecular Medicine, McMaster University, Hamilton, ON, Canada, [3]St. Joseph's Healthcare Hamilton, Hamilton, ON, Canada, [4]Vancouver Island Health Authority, Victoria, ON, Canada, [5]St. Joseph's Healthcare/McMaster University, Hamilton, ON, Canada, [6]Pathology and Laboratory Medicine, University of British Columbia, Victoria, BC, Canada

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Background. Fecal microbiota transplantation (FMT) has shown to be effective for recurrent *Clostridium difficile* infection (rCDI). However, significant laboratory costs for donor screening and a lack of suitable donors and laboratory facility have restricted the availability of the treatment. In order to expand access to FMT, we have investigated the efficacy of lyophilized FMT, comparing it to the published historical efficacy of frozen FMT in preventing further episodes of CDI in patients with a history of rCDI. This study was designed to be open-labeled to expedite and minimize costs associated with conducting a two-armed randomized controlled trial, given that the efficacy of frozen FMT is known to be 85%. Additionally, using lyophilized FMT offers two major advantages: 1) its prolonged shelf life reduces cost because fewer donors need to be screened; and 2) it can be transported without freezing.

Methods. This is an open-labeled, prospective study involving 50 patients with a history of 2 or more rCDI who have failed at least 1 course of tapered vancomycin therapy. Eligible patients received 2 lyophilized FMT via retention enema within 8 days of each treatment and were followed for 13 weeks post last FMT to determine efficacy and safety of FMT.

Results. The efficacy of lyophilized FMTs in preventing further episodes of CDI in patients with rCDI was 80%. The adverse events associated with lyophilized FMT were similar to frozen FMT.

Conclusion. Lyophilized FMT in treating rCDI showed similar efficacy and safety to frozen FMT. Lyophilized FMT appears to be promising in preventing further episode of CDI and increasing accessibility for patients with rCDI.

Disclosures. **All authors:** No reported disclosures.

1255. Probiotics to Reduce *Clostridium difficile* Infection: Clinical Experience in a Tertiary Care Center

Maggie Box, PharmD, BCPS, AQ-ID[1]; Kristine Ortwine, MS, MPH[2] and Scripps Antimicrobial Stewardship Program; [1]Scripps Memorial Hospital La Jolla, La Jolla, California, [2]Scripps Healthcare, San Diego, California

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Background. There is conflicting clinical data regarding the efficacy of probiotics to prevent *Clostridium difficile* infection (CDI). The goal of this study is to compare rates of hospital acquired *Clostridium difficile* infection (HA-CDI) among patients receiving antibiotics with or without concomitant administration of probiotics.

Methods. This retrospective, cohort study compares hospitalized patients who received antibiotics alone vs. antibiotics plus a multi-strain probiotic preparation of lactobacillus over a six month time period. Probiotics were given at the discretion of the physician. The primary outcome was incidence in HA-CDI (defined as onset after hospital day three) between groups.

Results. A total of 1,576 patients met selection criteria, with 927 patients receiving antibiotics alone and 649 patients receiving antibiotics plus probiotics. HA-CDI rates were 0.9% and 1.8% ($P = 0.16$), respectively. In a subgroup analysis of patients in the antibiotic only group, patients who received similar antibiotic exposure as the probiotics group ($n = 284$) had no difference in rates of HA-CDI (1.8% vs. 1.8%; $P = 1.0$).

Conclusion. Probiotic administration did not decrease rates of HA-CDI in our institution. We recommend prioritizing resources to other CDI reduction measures such as decreasing antibiotic exposure and preventing transmission.

Disclosures. **All authors:** No reported disclosures.

1256. Efficacy of Oral Vancomycin, Oral Metronidazole, or IV Metronidazole Prophylaxis at Reducing the Risk of *Clostridium difficile* Recurrence

Matthew O'Connell, PharMD[1]; Judianne Slish, Pharm. D., BCPS[2] and Mark Shelly, MD, FSHEA[3]; [1]Candidate 2018, Wegmans School of Pharmacy, Rochester, New York, [2]St. John Fisher School of Pharmacy, Rochester, New York, [3]Infectious Disease, University of Rochester Medical Center, Rocheseter, New York

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Background. Secondary prophylaxis (SP) for *Clostridium difficile* infection (CDI) with oral vancomycin or oral/IV metronidazole when initiating antibiotics is common, though few studies are available to support this practice. The purpose of this study was to assess the efficacy of prophylaxis within a year of index CDI.

Methods. This retrospective chart review looks at subsequent courses of antibiotics and CDI in patients with initial positive CDI testing in 2013–16. A positive CDI test within 90 days of antibiotics was a recurrence. The use of antibiotics for SP was noted, along with other factors associated with CDI relapse. Non-parametric and exact tests were used for univariate analysis. These variables were included in a multivariate proportional hazards model.

Results. We found 597 antibiotic episodes in 230 patients. 130 episodes (21.8%) received SP. The difference of recurrence rates with and without antibiotics, 9.2 % vs 10.7%, was not statistically significant. No difference was seen when metronidazole was used, but vancomycin SP reduced the rate to 7.5% (6/80, $P = 0.45$). Probiotics were associated with a higher rate of recurrence (16.7 vs. 8.9%, $P = 0.025$). Proton pump inhibitors were also associated with a slightly higher rate of CDI recurrence (13.0% vs. 8.4%). The rate of relapse fell significantly with increasing time since the index case of CDI by logistic regression (P = 0.011). In multivariate regression, relapse was associated with shorter time from index CDI, shorter durations of antibiotics, and the use of probiotics.

Conclusion. This retrospective study does not support the routine use of metronidazole in subsequent antibiotic courses following CDI. The use of probiotics paradoxically increased the rate of CDI relapse in this study. The limitations of this retrospective study do not eliminate the possibility of utility of vancomycin as prophylaxis, but this requires further evaluation.

Disclosures. **All authors:** No reported disclosures.

1257. Tetracyclines are Associated with a Reduced Risk of *Clostridium difficile* Infection: A Systematic Review and Meta-analysis

Raseen Tariq, MBBS[1]; Janice Cho, MD[2]; Saloni Kapoor, MBBS[1]; Robert Orenstein, DO, FIDSA[3]; Siddharth Singh, MBBS, MS[4]; Darrell Pardi, MD, MS[1] and Sahil Khanna, MBBS, MS[1]; [1]Gastroenterology and Hepatology, Mayo Clinic, Rochester, Minnesota, [2]Internal Medicine, Mayo Clinic, Rochester, Minnesota, [3]Infectious Diseases, Mayo Clinic Arizona, Phoenix, Arizona, [4]Gastroenterology and Hepatology, University of California San Diego, La Jolla, California

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Background. Efforts towards antibiotic stewardship help reduce risk of *Clostridium difficile* infection (CDI) but there is a need to delineate antibiotic choices to reduce CDI risk. Tetracyclines may be associated with a low risk for CDI but the evidence is conflicting. We conducted a systematic review and meta-analysis to determine the relationship between tetracyclines use and CDI.

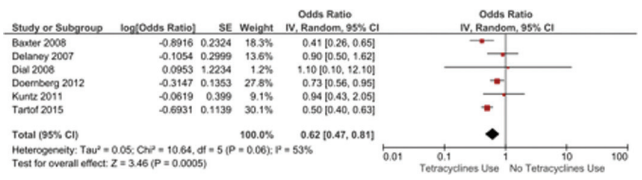
Methods. A systematic search of Medline, Embase, and Web of Science was performed from January 1978 up to December 2016 including studies assessing the association between tetracyclines and CDI; compared with other antibiotics; to assess the risk of CDI after exposure to tetracyclines vs. other antibiotics. Study quality was assessed using the Newcastle-Ottawa scale. Weighted summary estimates were calculated using generalized inverse variance with random-effects model using Review Manager version 5.3 (Cochran Inc).

Results. Six studies; 4 case control and 2 cohort studies reported the association of CDI with tetracyclines or other antibiotics prior to CDI including patients from 1993 to 2012. Meta-analysis of all studies using the random-effects model demonstrated that tetracyclines were associated with decreased risk of CDI compared with other antibiotics (OR, 0.62; 95% CI, 0.47–0.81; $P = .0005$). There was significant heterogeneity among the studies, with an I^2 of 53% (Figure 1). No publication bias was seen.

Subgroup analysis of studies evaluating the risk of CDI with doxycycline only also demonstrated a decreased risk of CDI with doxycycline compared with other antibiotics (OR, 0.55; 95% CI, 0.40–0.75; P = 0.0002). A subgroup analysis based on CDI diagnosis definitions revealed a decreased risk of CDI with tetracyclines (OR, 0.59; 95% CI, 0.44–0.80; P = 0. 0006) in studies that used clinical definitions (presence of diarrhea with a positive stool test), but not among the studies that used ICD-9 codes for CDI diagnosis (OR, 0.95; 95% CI, 0.45–2.01; P = 0.90).

Conclusion. Tetracyclines are associated with a lower risk of developing CDI compared with other antibiotics. It is reasonable to use these over other antibiotics when appropriate (community acquired pneumonia, bronchitis, chlamydia, rickettsial or spirochetal infections) to reduce the risk of CDI.

Forest plot demonstrating decreased odds of CDI with tetracyclines use by a random-effects model



Disclosures. **All authors:** No reported disclosures.

1258. Durability and Long-Term Clinical Outcomes of Fecal Microbiota Transplant (FMT) Treatment in Patients with Recurrent *C. difficile* Infection

Yafet Mamo, BS[1]; Michael Woodworth, MD[2]; Kaitlin Sitchenko, BS[2]; Tanvi Dhere, MD[3] and Colleen Kraft, MD, MSc[4,5]; [1]Emory University School of Medicine, Atlanta, Georgia, [2]Division of Infectious Diseases, Emory University, Atlanta, Georgia, [3]Division of Digestive Diseases, Emory University, Atlanta, Georgia, [4]Department of Pathology and Laboratory Medicine, Emory University School of Medicine, Atlanta, Georgia, [5]Department of Medicine, Division of Infectious Diseases, Emory University, Atlanta, Georgia

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Background. Fecal microbiota transplant (FMT) has been shown to be safe and effective for treatment of recurrent *C. difficile* infection (RCDI). The aim of this study is to determine factors impacting the durability of FMT and assess patient long-term clinical outcomes and satisfaction with the procedure.

Methods. Eligible patients who had received FMT for RCDI at Emory Hospital between July 1, 2012 and December 31, 2016 were contacted via telephone for a follow up survey. Of 232 patients who received FMT, 27 were deceased and 15 were unable