the antibiotic only group, patients who received similar antibiotic exposure as the pro-
rates were 0.9% and 1.8% (ing antibiotics alone and 649 patients receiving antibiotics plus probiotics. HA-CDI
the physician. The primary outcome was incidence in HA-CDI (defined as onset after
lactobacillus over a six month time period. Probiotics were given at the discretion of
receiving antibiotics with or without concomitant administration of probiotics.
Conclusion. Lyophilized FMT in treating rCDI showed similar efficacy and safety to
frozen FMT. Lyophilized FMT appears to be promising in preventing further epi-

disclosure; and 2) it can be transported without freezing.
Methods. This is an open-labeled, prospective study involving 50 patients with a his-
tory of 2 or more rCDI who have failed at least 1 course of tapered vancomycin therapy. Eligible patients received 2 lyophilized FMT vial regimen within 8 days of each treat-
ment 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 those seen with frozen FMT.
Conclusion. Lyophilized FMT in treating rCDI is effective and safe to use.
Disclosures. All authors: no reported disclosures.
1255. Probiotics to Reduce Clostridium difficile Infection: Clinical Experience in a Tertiary Care Center
Maggie Box, PharmD, BCPS, AO-ID; Kristine Ortizwine, MS, MPH† and Scripps Antimicrobial Stewardship Program; 2Scripps Memorial Hospital La Jolla, La Jolla, California, 3Scripps Healthcare, San Diego, California
Session: 148. C. difficile: From the Bench to Bedside
Friday, October 6, 2017: 12:30 PM
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 chart review was conducted at a single tertiary hospital and was a 
comparative study of patients hospitalized 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) before and after institution of probiotics.
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†; Juindrise Slish, Pharm. D, BCPS† and Mark Shelly, MD, FSHEA†; Candidate 2018, Wegmans School of Pharmacy, Rochester, New York, 2John Fisher School of Pharmacy, Rochester, New York, 3Infectious Disease, University of Rochester Medical Center, Rochester, New York
Session: 148. C. difficile: From the Bench to Bedside
Friday, October 6, 2017: 12:30 PM
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 antibiot-
ics 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 recurrence. Non-parametric and exact tests were used for univariate analysis. These variables were included in a multivariable proportional hazards model.
Results. We found 597 antibiotic episodes in 230 patients. 130 episodes (21.8%) received a definition of recurrence associated with CDI plus antibiotics, 9.2% (24/261) received a definition of recurrence associated with CDI alone, and 10.7% (26/241), 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 associ-
ated with a higher rate of recurrence (16.7% vs. 8.9%; P = 0.025). Proton pump inhibi-
tors 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 met-
ronidazole in subsequent antibiotic courses following CDI. The use of probiotics prior to CDI recurrence 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 prophyl-
axis, 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
Rasen Tariq, MBBS; Janice Cho, MD;† Salonii Kapoor, MBBS; Robert Orenstein, DO, FIDSA; Siddharth Singh, MBBS, MSt; Darrell Pardi, MD, MS† and Sahil Khanna, MBBS, MSt, †; Gastroenterology and Hepatology, Mayo Clinic, Rochester, Minnesota, 2Internal Medicine, Mayo Clinic, Rochester, Minnesota, 3Infectious Diseases, Mayo Clinic Arizona, Phoenix, Arizona, 4Gastroenterology and Hepatology, University of California San Diego, La Jolla, California
Session: 148. C. difficile: From the Bench to Bedside
Friday, October 6, 2017: 12:30 PM
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 evi-
dence 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 tetracycline 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 cal-
culated using generalized inverse variance with random-effects model using Review
Manager version 5.3 (Cochrane 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 demon-
strated that tetracyclines were associated with decreased risk of CDI compared with other antibiotics (OR, 0.62; 95% CI, 0.47–0.81; P = 0.0005). There was significant heter-
ogeneity among the studies, with an I² of 53% (Figure 1). No publication bias was seen.
Subgroup analysis of studies evaluating the risk of CDI with doxycycline only 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 revealed a decreased risk of CDI with tetracyclines (OR, 0.59; 95% CI, 0.44–0.80; P = 0.0060) 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, 0.45–2.0; 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, chlamydial, rickettsial or syphilitic infections) to reduce CDI risk.
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 Transplantation (FMT) Treatment in Patients with Recurrent C. difficile Infection
Yatif Mamo, BS;† Michael Woodworth, MD;† Katlin Sitchenko, BS;† Tanvi Dhere, MD† and Colleen Kraft, MD, MS†; 1Emory University School of Medicine, Atlanta, Georgia, 2Division of Infectious Diseases, Emory University, Atlanta, Georgia, 3Division of Digestive Diseases, Emory University, Atlanta, Georgia, 4Department of Pathology and Laboratory Medicine, Emory University School of Medicine, Atlanta, Georgia, 5Department of Medicine, Division of Infectious Diseases, Emory University, Atlanta, Georgia
Session: 148. C. difficile: From the Bench to Bedside
Friday, October 6, 2017: 12:30 PM
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 the 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
to be reached with listed phone number. Of the remaining 190 eligible patients, 137 patients completed the survey.

**Results.** The median time-period between FMT and follow up was 22 months. Median number of failed antibiotic courses for RCDI before FMT was 4. Overall, 82% (113/137) of patients experienced resolution of RCDI post-FMT (non-RCDI group) while 18% (24/137) of patients had recurrence of CDI post-FMT (RCDI group). In the RCDI and non-RCDI groups, antibiotic use post-FMT for non- C. difficile-related infections was 75% and 38% (P = 0.0004), respectively. PPI use post-FMT was 38% and 31% (P = 0.28), and probiotic use post-FMT was 63% and 41% (P = 0.026) in the RCDI and non-RCDI groups, respectively. There were 18 hospitalizations in the RCDI group and 9 were related to C. difficile complications; of the 36 hospitalizations in the non-RCDI group, only 1 was related to chronic complication of a previous C. difficile infection. Overall, 11% of patients reported improvement or resolution of medical conditions not related to CDI post-FMT while 33% reported diagnosis of a new medical condition or development of new symptoms; none of the new medical conditions or symptoms were attributable to the procedure. In all, 95% of patients indicated willingness to undergo FMT in the future if they experience another bout of C. difficile infection.

**Conclusion.** The findings show that FMT is an effective treatment option for RCDI with a cure rate, defined as resolution of RCDI post-FMT or recurrence attributable to antibiotic use post-FMT, of 96% (131/137) in the study group. Furthermore, clinical outcomes and patient satisfaction post-FMT indicate the safety of the procedure.

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

1259. Clinical and Economic Evaluation of commercialized Fecal Microbiota Transplant (cFMT) for Patients with Recurrent *Clostridium difficile* Infection (CDI) in a Large Community Hospital

Ali Hassoun, MD FIDSA FACP1; Jonathan Edwards, PharmD, BCPS AQ-ID2; and Brian Boyett, Pharm, D.1; 1Alabama Infectious Diseases Center, Huntsville, Alabama, Alabama; 2Huntsville Hospital, Huntsville, Alabama

**Session:** 148. C. difficile: From the Bench to Bedside

**Friday, October 6, 2017: 12:30 PM**

**Background.** Recurrent CDI is common despite antibiotic therapy; FMT is effective to reduce recurrent infections. We report our experience with Commercialized FMT (cFMT) products by providing ready-to-use capsules, for oral administration, or solution, for administration via colonoscopy.

**Methods.** The study was approved by IRB for adult patients with at least 3 episode of recurrent CDI despite antibiotic therapy, patients with severe infection were excluded. cFMT was administered in the hospital or at outpatient center. Each patient was evaluated 8 weeks post-transplant to assess for sustained clinical cure and side effects. The economic impact of cFMT was evaluated using historical data from EHR including: CDI rate, CDI readmission rate, rate of CDI-associated death, cost of CDI admissions, and rate of use of each antimicrobial regimen.

**Results.** 33 patients enrolled (solution/colonoscopy 20 and capsule 13). Mean age was 74 vs. 67 y. female 56% vs. 64%, recurrent episode 4 vs. 3.1, CDI severity score 1.4 vs. 1.2. 95% (19/20) of patients who received cFMT via colonoscopy experienced sustained clinical cure vs. 85% (11/13) of patients who received capsule. One patient experienced an adverse event from capsule with nausea and vomiting, which resolved without sequelae. 2 of the 3 patients that experienced treatment failure received cFMT from the same donor. Due to recurrent episodes. The cost of cFMT was $635 for capsules and $485 for solution which was far less than recurrent CDI associated cost.

**Conclusion.** cFMT is a viable alternative to traditional FMT and was both clinically and economically beneficial in patients with recurrent CDI in a community hospital.

Further studies needed to confirm above findings.

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

1261. Weight Changes in Fecal Microbiota Transplant for *Clostridium difficile*

Dina Hussain, MD1; Marci Drees, MD, MS2; Scott Myerson, MD1; Chad Duffalo, MD, MPH3; Danielle Mosby, MPH3; Christine Herdman, MD1; Fedele Delpalma, MD1; Patty McGraw, RN, MS1 and Alfred E. Bacon III, MD1; 1Medicine, Christiana Care Health System, Newark, Delaware, 2Christiana Care Health System, Newark, Delaware

**Session:** 148. C. difficile: From the Bench to Bedside

**Friday, October 6, 2017: 12:30 PM**

**Background.** Fecal microbiota transplant (FMT) for relapsing *Clostridium difficile* infections (CDI) allows for rapid repopulation of the colon microbiome and may prevent future relapses. FMT is considered safe, however subsequent impact on weight and metabolism is incompletely understood. Animal studies have shown that alterations in microbiota lead to changes in body weight; this also suggested in humans, based on limited anecdotal evidence. This study explores changes in weight associated with FMT.

**Methods.** We conducted a retrospective observational study of patients who underwent FMT at our 1100-bed community-based academic healthcare system. FMT protocol requires 2 documented CDI relapses and failed vancomycin taper. FMT methods include colonoscopy, EGD and oral capsules. Of note, donor stool (OpenBiome, Boston, Massachusetts) criteria include BMI <30. We conducted a chart review for documented provider-measured weights pre- and post-FMT (≤1 year), and compared pre- and post-FMT weights to last recorded weight within 1-year period. We also evaluated weights in a subset of patients in the acute (2-6 week post-FMT) timeframe.

**Results.** Between Apr 2014 - Oct 2016, 41 patients underwent FMT. Of these, 31 (75%) patients had adequate weight data available for review (Table). Overall patients gained an average 2.4%. During the acute phase, 20 patients (65%) had documented weights of these 50% lost and 50% gained weight, with overall weight loss of 0.7%.

| Base Line | 1 year |
|-----------|--------|
| BMI Class, % | | |
| Underweight | 16 | 16 |
| Normal | 38 | 26 |
| Overweight | 24 | 32 |
| Obese | 24 | 32 |
| Weight change, % | | |
| Gain | - | 55 |
| Loss | 39 | |
| Maintain | 6 | |
| % of body weight gained/lost, n (%) | | |
| >5% gain | 6 | (65) |
| >10% gain | 6 (35) | |
| >5% loss | 6 (50) | |
| >10% loss | 2 (17) | |
| Average % of body weight change | | |
| (among those with changes) | - | |
| Gain | 7.7 | |
| Loss | 5.5 | |