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

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1255. Probiotics to Reduce Recurrence of Clostridium difficile Infection: A Systematic Review and Meta-analysis

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Session: 148. C. difficile: From the Bench to Bedside
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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 is a single-center, retrospective, hospital-based study performed at a tertiary care center. Patients aged ≥18 years 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 having received antibiotics for at least 3 days). The secondary outcomes were incidence of rCDI, recurrence of CDI following CDI. A total of 5,176 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 population. However, probiotics can be given at the discretion of the physician, albeit with no clear benefit or harm.

Disclosures. All authors: no reported disclosures.
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-CDI-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 a highly 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
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Background. Recurrent CDI is common despite antibiotic therapy; FMT is effective to reduce recurrent infections. We report our experience with Commercialized FMT (cFMT) products in a large community hospital.

Methods. The study was approved by IRB for adult patients with at least 3 episodes 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 (solute/coloscopy 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 costs.

Conclusion. cFMT is a viable alternative for 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
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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 the microbiome lead to metabolic changes; that is 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 chart review for documented provider-measured weights pre- and post- FMT (≤1 year), and compared cFMT weights to the 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%.

<table>
<thead>
<tr>
<th>Baseline</th>
<th>1-year</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMI Class, %</td>
<td></td>
</tr>
<tr>
<td>Underweight</td>
<td>16</td>
</tr>
<tr>
<td>Normal</td>
<td>30</td>
</tr>
<tr>
<td>Overweight</td>
<td>26</td>
</tr>
<tr>
<td>Obese</td>
<td>24</td>
</tr>
<tr>
<td>Weight change, %</td>
<td>32</td>
</tr>
<tr>
<td>Gain</td>
<td>55</td>
</tr>
<tr>
<td>Loss</td>
<td>39</td>
</tr>
<tr>
<td>Maintain</td>
<td>6</td>
</tr>
<tr>
<td>% of body weight gained/gained, n (%)</td>
<td>-</td>
</tr>
<tr>
<td>&gt;5% gain</td>
<td>11 (65)</td>
</tr>
<tr>
<td>&gt;10% gain</td>
<td>6 (35)</td>
</tr>
<tr>
<td>&gt;5% loss</td>
<td>6 (30)</td>
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<tr>
<td>&gt;10% loss</td>
<td>2 (17)</td>
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<tr>
<td>Average % of body weight change (among those with changes)</td>
<td>-</td>
</tr>
<tr>
<td>Gain</td>
<td>7.7</td>
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<tr>
<td>Loss</td>
<td>5.5</td>
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</tbody>
</table>