

Session Summary for 3 April 2018

Didactic: Fecal Microbiota Transplants.

1. *Clostridium difficile* is now *Clostridioides difficile.*
2. Gut microbiota homeostasis is disrupted by antibiotics creating dysbiosis leading to CDI. The goal of fecal microbiota transplants, FMT, is to return to that homeostasis.
3. Accounts of using feces to treat illness reaches back to the 4th century; but modern attempts began in the 1950s with a fecal transplant to treat pseudomembranous colitis; prior to understanding the organism that caused this condition.
4. Indications for FMT are changing:
   1. Recurrent CDI
   2. Severe CDI
   3. Primary CDI?
   4. Increasing data in children and immunosuppressed.
5. Van nood et al. NEJM. 2013 compared FMT to vancomycin for recurrent CDI.
   1. 94% CDI cured with FMT v 31% with vancomycin alone.
   2. Simpson’s Reciprocal Index; measure of biodiversity was improved with FMT.
6. Not only do antibiotics disrupt the microbiota but they also change the GI tract pH, further contributing to dysbiosis and epithelial damage.
7. FMT can be done via NGT, capsules, colonoscopy, and retention enema.
8. FMT is not yet FDA regulated but this may change in the near future.
9. The gut microbiome contributes to a number of other conditions and how FMT influences these is not yet well understood (autoimmune disease, cancer, longevity, metabolism).
   1. FMT in mice from patients with colorectal cancer has been shown to increase colon dysplasia (Wong et al, Gastroenterology, 2017).
   2. Feeding fish the GI tract of younger fish increases lifespan (Smith et al. Elife, 2017).