The Microbiome: Lessons From the Gut – Part 2

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History of Fecal Transplantation

- Pliny the Elder is known for recommending fermented milk and apparently also fecal transplants.
- Ge Hong reported on the use of fecal transplant in the 4th century.
- Li Shizhen in the 16th century (the father of traditional Chinese medicine) used “yellow soup” to treat a variety of GI illnesses.

http://www.iep.utm.edu
Duodenal Infusion of Donor Feces for Recurrent Clostridium difficile

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FMT: 94% success rate
vancomycin: 30% success rate

Figure 2. Rates of Cure without Relapse for Recurrent Clostridium difficile Infection.
Shown are the proportions of patients who were cured by the infusion of donor feces (first infusion and overall results), by standard vancomycin therapy, and by standard vancomycin therapy plus bowel lavage.
Recovery of the Gut Microbiome following Fecal Microbiota Transplantation

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Fecal Microbiota Transplantation Eliminates Clostridium difficile in a Murine Model of Relapsing Disease

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Where do we go from here with regards to the microbiome?

- Multiple between the microbiome and many diseases.
- We are beginning to move from association to causation
- We have early success in intentionally manipulating the microbiota to “improve health”
The Microbiota in the Precision Health Paradigm

A Vision for the Future

https://allofus.nih.gov
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Questions?
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