



Microbiome Based Treatment for Cirrhosis Patients

Applications

- Predict hospitalization in cirrhosis patients
- Indicate treatment course
- Detect fungal infection from bacterial profile
- Detect infections due to cirrhosis complications

Advantages

- Reduced emergency room visits (*568,023 related US visits in 2011*)
- Improved quality of life
- Improved life expectancy (*49,500 related US deaths in 2010*)
- Reduced screening costs over fungal tests

Inventors

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Market Need

Cirrhosis is a major cause of death/disability worldwide and the eighth leading cause of death in the US in 2010. Cirrhosis patients have a high likelihood of multiple hospitalizations and developing infections. One major reason is related to dysbiosis or unfavorable microbiome of the gut. Overuse of antibiotics in cirrhosis results in increase of culture-negative and fungal infections from dysbiosis.

Technology Summary

From a patient's microbiome sample screening (16S rRNA bacterial) we can predict which patients:

- have fungal overgrowth requiring a lower threshold for anti-fungal coverage
- are unlikely to sustain further antibiotic use
- are likely to need repletion of their microbiome using:
 - probiotics
 - prebiotics
 - fecal microbial transplant
- are expected to get re-hospitalized within 90 days
- to treat with antibiotics or antifungal agents

Technology Status

Clinical Trials: 169 patients, over 90% accuracy identifying/predicting infections

Patent Pending

Articles: [Bajaj 2016](#), [Bajaj 2017](#)

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