

Complex gut microbiota analysis is unnecessary in diagnosis of cirrhosis

5 October 2015, by Anne Dreyfuss

In a recent issue of the journal *Nature*, Virginia Commonwealth University School of Medicine associate professor Jasmohan S. Bajaj, M.D., provides new data to reinterpret conclusions from a July 2014 *Nature* journal study that had reported on a novel way to diagnose cirrhosis using complex microbiota analysis. The term microbiota refers to the network of tiny organisms in the human body such as bacteria and fungi that can either bolster an immune system or weaken it.

Cirrhosis, which is characterized by prominent and irreversible scarring of the liver, is caused by a variety of conditions such as viral hepatitis and [chronic alcohol abuse](#). It is diagnosed clinically using ultrasound or blood tests.

The original *Nature* journal study proposed a novel but complicated diagnostic approach to identify patients with cirrhosis and did not differentiate between patients with advanced, or decompensated, cirrhosis and those in the early stages of the disease. While novel, that diagnostic method is cumbersome, expensive and not available outside of a few centers. "Therefore, it is unlikely to replace current techniques, especially in decompensated cirrhosis," Bajaj said.

Patients who have been diagnosed with cirrhosis can be categorized as having compensated or decompensated cirrhosis. Compensated cirrhosis means that the body still functions fairly well despite scarring of the liver. Decompensated cirrhosis means that the severe scarring of the liver has damaged and disrupted essential body functions.

In the study published on Sept. 17, "Decompensated Cirrhosis and Microbiome Interpretation," Bajaj and his colleagues argue against the complicated proposed diagnostic process and provide evidence demonstrating that patients with decompensated cirrhosis have a different gut microbiome than those who are in

earlier stages of the disease.

"Decompensated cirrhosis is easy to diagnose," Bajaj said. "You don't need to go through any complicated techniques to diagnose it."

Bajaj, who practices in the Department of Internal Medicine's Division of Gastroenterology, Hepatology and Nutrition, worked with researchers from the Microbiome Analysis Center at George Mason University to re-analyze the findings from the 2014 study and conduct an independent study with 360 new patients from VCU Medical Center and the Hunter Holmes McGuire VA Medical Center in Richmond.

"The conclusions from the 2014 study were not something we agreed with, so we had to re-analyze the original study data in addition to doing our own study," Bajaj said. "We found that the current need is not for us to diagnose cirrhosis late in the disease because we already know how to do that. What we need are techniques that will help us find out which people with [cirrhosis](#) will do worse over time."

More information: "Decompensated cirrhosis and microbiome interpretation." *Nature* 525, E1–E2 (17 September 2015) [DOI: 10.1038/nature14851](https://doi.org/10.1038/nature14851)

Provided by Virginia Commonwealth University

APA citation: Complex gut microbiota analysis is unnecessary in diagnosis of cirrhosis (2015, October 5) retrieved 17 June 2021 from <https://medicalxpress.com/news/2015-10-complex-gut-microbiota-analysis-unnecessary.html>

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