

Coconut oil shows promise in the prevention of deadly bloodstream infection

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Coconut oil may be effective at combating infection with *Candida albicans*, according to a study published November 18th in the American Society for Microbiology's new open access journal *mSphere*. The study found that coconut oil consumption reduced gastrointestinal colonization by *C. albicans* in mice.

"We found that diet can be an effective way to reduce the amount of *Candida* in the mouse," said lead study author Carol Kumamoto, PhD, professor of <u>molecular biology</u> and microbiology, Tufts University School of Medicine. "The extension of this finding to the <u>human</u> <u>population</u> is something that needs to be addressed in the future."

C. albicans is part of the normal gut microbiome of humans and some animals. In immunocompromised individuals and <u>older adults</u>, however, *C. albicans* can leave the gut, enter the bloodstream, and cause invasive infection affecting organs including the kidneys, liver, spleen, lungs, brain, and heart valves. Roughly 40% to 50% of individuals who have systemic *C. albicans* infection will die from it. "People who get this disease are very sick and generally in the hospital. We are talking about cancer patients, people who receive transplants, premature infants, intensive care unit patients with catheters, and sometimes the elderly," said Dr. Kumamoto. "*Candida* is one of the most common causes of bloodstream infections in hospitalized patients."

Clinicians can use antifungal drugs to prevent *C. albicans* infection in some high-risk patients, but this isn't ideal because it can contribute to



the emergence of drug resistant strains. Previous research has shown that changes to diet, including changes in the amount and type of fat, can alter gastrointestinal microbiota. In vitro studies have shown that coconut oil, in particular, has antifungal properties.

In a new NIH-funded study, Dr. Kumamoto and Alice H Lichtenstein, D.Sc., director of the Cardiovascular Nutrition Laboratory at the Jean Mayer USDA Human Nutrition Research Center on Aging at Tufts University designed high fat diets containing coconut oil, beef tallow, soybean oil or a standard diet. Mice were fed these diets for 14 days prior to inoculation with *C. albicans* and 21 days following. At 21 days post inoculation, gastrointestinal colonization with *C. albicans* was significantly lower in the stomach contents of mice fed the coconut oil diet than mice fed the beef tallow diet (P

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