Synthetic stool a prospective treatment for C. difficile

April 30 2012

A synthetic mixture of intestinal bacteria could one day replace stool transplants as a treatment for *Clostridium difficile* (*C. difficile*). *C. difficile* is a toxin-producing bacteria that can overpopulate the colon when antibiotics eradicate other, naturally protective bacteria living there.

"A synthetic stool transplant has a lot of potential because we can control what goes in and we can alter, change, or modify it as necessary," says Elaine Petrof, an assistant professor in the Department of Medicine at Queen's University and in the Gastrointestinal Disease Research Unit (GIDRU) at Kingston General Hospital.

Dr. Petrof and her collaborator at the University of Guelph, Emma Allen-Vercoe, believe that a stool compound made from synthetic or "purified" bacteria could significantly improve on regular stool transplants. It could eliminate the chance of transmitting an infectious disease through fecal bacteria; physicians could tailor the mixture so as to increase patient acceptance; it would be easily reproducible; and, it may appeal to both doctors and patients as a 'cleaner' therapy.

Dr. Petrof and Dr. Allen Vercoe, an anaerobic microbiologist specializing in intestinal bacteria, are working closely to develop such a therapy. The goal behind their synthetic stool project is to offer a single-dose remedy, putting an end to revolving-door hospital visits for patients with recurring symptoms. Currently, they are continuing their research before using it as a new therapy.

Provided by Queen's University