Fecal microbiota transplants successfully treat patients with C. difficile

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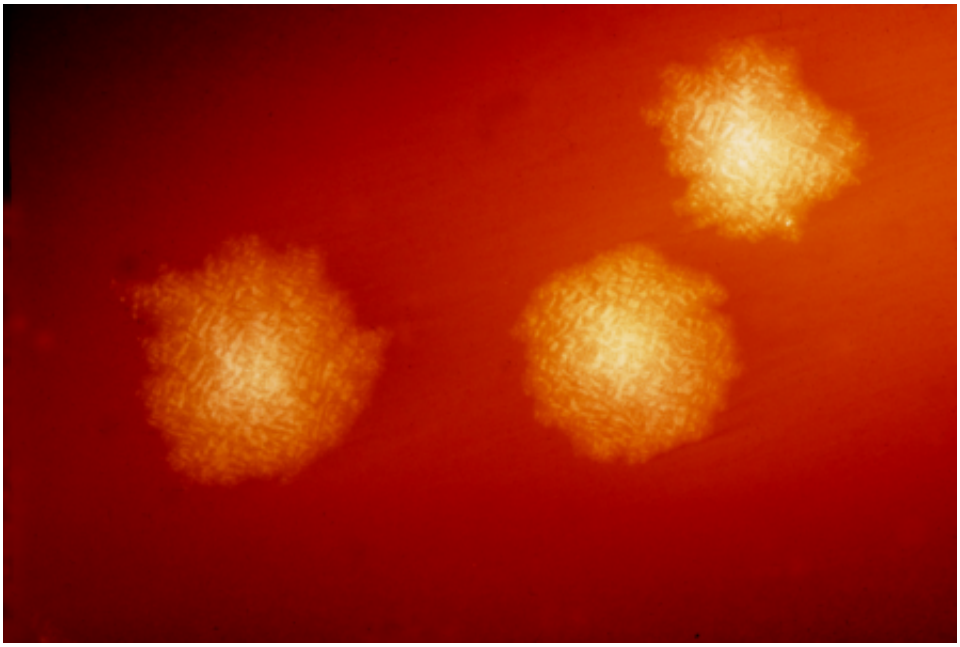

This photograph depicts Clostridium difficile colonies after 48hrs growth on a blood agar plate; Magnified 4.8X. C. difficile, an anaerobic gram-positive rod, is the most frequently identified cause of antibiotic-associated diarrhea (AAD). It accounts for approximately 15-25% of all episodes of AAD. Credit: CDC

A new study from the University of Birmingham has shown that Faecal Microbiota Transplants (FMT) are highly successful in treating patients with *Clostridioides difficile* (*C.diff*) infection.

Published in *EClinical Medicine*, results from the first licenced English

stool bank, which supplies FMT treatment to patients in the NHS, have shown that in 78% of cases the patient's diarrhoea had stopped and had not returned in the 90 days after treatment.

Antibiotics can be effective in treating the first episode of *C.diff*. However, 10-20% of patients don't respond and the infection then recurs. Success rates of antibiotics in relapsing infection can be as low as 30%.

C.diff infections result from the good gut bacteria being killed by antibiotics given for other infections and causes severe diarrhoea, abdominal pain and may be fatal in elderly patients.

During FMT, the good bacteria in the faeces of a healthy donor are transferred to the gut of a patient with the infection.

The Microbiome Treatment Centre at the University of Birmingham is the first in the UK to be licenced for FMT preparation by the Medicines and Healthcare products Regulatory Agency (MHRA), supplying NHS patients across the country.

Before the dedicated centre was set up, many patients across the UK were unable to access this treatment.

Scientific studies have demonstrated that FMT treatment is better than treatment with special expensive antibiotics for *C.diff* infections, particularly when the patient's infection has come back again.

The development of a licenced FMT service at the University of Birmingham will widen the supply and improve equality of access to FMT treatment across the NHS. It will provide critical support for researchers both here in Birmingham and in other centres working on how FMT produces a cure not only in *C.diff* infection but also

conditions such as ulcerative colitis and other diseases which seem to be linked to the gut microbiome.

Lead author Dr. Victoria McCune, Consultant Clinical Scientist in Microbiology at South Tees Hospital NHS Foundation Trust, said:

"Our research has successfully shown the benefits of treating recurrent *C.diff* patients with FMT. Our standardised approach to making FMT will improve the quality and safety of this treatment for many more patients."

Professor Peter Hawkey, Professor of Clinical and Public Health Bacteriology at the University of Birmingham's Institute of Microbiology and Infection, said:

"This work has turned an unregulated potentially dangerous method of faecal transplantation into a national service providing rapid, safe regulated, life-saving treatment for a serious disease affecting thousands of patients in the UK."

More information: McCune et al (2020). 'Results from the first English stool bank using faecal microbiota transplant as a medicinal product for the treatment of Clostridioides difficile infection'. *EClinical Medicine*.

Provided by University of Birmingham