Subramanya Rao et al., Madridge J Food Technol. 2018
http://dx.doi.org/10.18689/2577-4182.a2.013

Gut Microbiome Modulation in Patients Suffering from Irritable Bowel Syndrome Following Faecal Microbiota Transplantation

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The microbiome plays a crucial role in maintaining homeostasis in the human gut. Faecal Microbial transplant (FMT) is a process of transferring microbial communities from a healthy donor to a recipient; consequently, it is now being widely investigated for its ability to improve various health issues associated with gastrointestinal diseases. In this study, we investigated changes in gut microbiota following FMT in a patient with Irritable Bowel Syndrome (IBS). We describe changes in the composition of the faecal microbiome from a patient recipient before and after undergoing FMT, as a treatment for IBS condition. There was a marked loss of bacterial diversity with reduced bacterial phylum belonging to *Firmicutes* prior to FMT, this was corrected after post-FMT. Furthermore, an additional 13 donor bacterial species were engrafted after post-FMT belonging to *Actinobacteria*, *Bacteroidetes* and Firmicutes phylla. The observed changes in the host-gut environment following FMT procedures highlights changes in community structure dynamics reflecting changes needed for restoring a healthy and balanced gut microbiome.

Keywords: Microbiome, faecal microbiota transplant, Irritable Bowel Syndrome (IBS).

Biography:

Dr. Subramanya Rao is the Research Scientist and Laboratory Manager at Asia Microbiota Bank in Hong Kong. Dr. Rao has earned B.Sc in Biosciences and M.Sc in Microbiology in India. He won the prestigious postgraduate student scholarship in environmental research at The University of Hong Kong, and was awarded a PhD in Molecular Microbiology in 2013.

Dr. Rao has spent over 10 years researching on extreme environments. He has particularly focused on finding microbial life in hot and cold desert environments. Currently, as a research scientist at Asia Microbiota Bank, his research focus is on “Understanding the gut microbiome for Faecal Microbiota Transplantation”. He has published some of the pivotal findings in his field and has led several large international research projects. Below is the list of some of his publications.