

IIT-I, Choithram join hands to study brain disorders

Indore: A joint research by Indian Institute of Technology, Indore, (IIT-I) and Choithram Hospital and Research Centre has revealed the likelihood of bacterial infection causing brain disorders in human beings leading to medical conditions like Alzheimer.

Researchers claim the revelations in the study will help in deciding the line of treatment for Alzheimer at an early stage making treatment more effective.

The study to investigate the role of gut bacteria, *Helicobacter pylori* (H pylori) in gut-brain axis disruption and neuro inflammation was published in the journal *Virulence* and it emphasised on the possibility of gut microbial secretions entering the brain through one of the longest nerves, connecting gut to the brain and further inducing neuro related diseases and changing the gut-brain axis (GBA).

The research was led by IIT-I Department of Biosciences and Biomedical Engineering associate professor Dr Hem Chandra Jha and Dr Ajay Kumar Jain, Choithram Hospital and Research

Centre, Indore.

Jha said "Our team has assessed the effect of antimicrobial-resistant (AMR) H pylori strains on brain physiology. We now have a potential mechanism linking the stomach bacteria to neurological conditions. This study can help to upgrade the treatment regimen of patients with neurological complications along with prior H pylori infection and deciding the line of treatment for Alzheimer."

The GBA consists of bidirectional communication between the central and the enteric nervous system, linking emotional and cognitive centres of the brain with peripheral intestinal functions, IIT-I said in a statement issued on Monday.

The study showed that H pylori infection increases inflammation in the gut compartment and alters the activity of signal transducer and activator of transcription 3 and its downstream molecules. This might act as a transcriptional regulator for inflammatory and Alzheimer's disease associated hallmarks, the statement said. TNN