

“Biliary atresia (BA) is a disease of infancy where a progressive inflammatory destructive process of the bile-producing tubes within the liver leads to jaundice and liver inflammation. A surgical procedure, ‘Kasai Portoenterostomy’ (KP) performed in the first two months of life, re-plumbs the liver to the gut and can help unblock bile tubes,” explained Dr Jain.

“However by two years of age, nearly 50% of these infants will have deterioration of liver disease, requiring a liver transplant. In this project we aim to study the gut bacteria in newly diagnosed patients who undergo KP at different time points over 18 months, and correlate the type/communities of bacteria with the severity of liver disease. Gut bacteria from healthy infants will also be studied as controls.

“We predict that there is a difference in gut bacterial populations between healthy BA, unhealthy BA needing a transplant and healthy control infants. The results from this project may enable targeting of appropriate antibiotics/probiotics to newly diagnosed BA infants, in order to improve their gut bacteria and prevent deterioration of their liver condition. Improving the outcome in BA and reducing liver transplantation would significantly reduce the burden of this high-risk disease on the child and family.”

Professor Anil Dhawan

Dr Vandana Jain

King’s College Hospital, London