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Characterization of the intestinal microbiome of Hirschsprung's disease with and without enterocolitis

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Hirschsprung's disease (HD) is a congenital malformation of the gastrointestinal tract characterized by the absence of the distal enteric nervous system. Hirschsprung-associated enterocolitis (HAEC) is a severe life threatening complication of HD. The disease pathogenesis is still unclear, but evidences suggest that the intestinal microbiota may play important role in the development of HAEC. Because microbial abundance and diversity might differ in HD patients with enterocolitis, we sought to generate comparative metagenomic signatures to characterize the structure of the microbiome in HD patients with and without enterocolitis. Our experimental design is to enroll four HD patients (two with enterocolitis and two without enterocolitis). The microbiome was characterized by 16S rRNA gene, and the data obtained will be used to taxonomically classify and compare community structure among different samples. We found that the structure of the microbiome within HAEC patients differ from those without enterocolitis. Identifying the microbiome differences between HAEC and HD patients provides us a framework for future researches of determining the role of specific bacteria in inducing inflammation in HAEC. This study helps us to understand microbial contributions to the etiology of Hirschsprung associated enterocolitis, and provide a basis for early intervention of HAEC risk in Hirschsprung's disease.

Biography

Li Hong is Associate Professor of Pediatrics, and the Director of the Department of Clinical Nutrition. She graduated from Fu-Dan University School of Medicine in 1994, following which she continued her pediatric surgical training until 1997. She has played a major role in the development of Nutrition support strategies for Children in China. She has consequently received many awards for her work, and published widely in peer reviewed journals. Her special interests include nutrition support in critical ill children, congenital GI malformations and intestinal rehabilitation, and microbiome research in children.

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