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Biography

Iftikhar Ahmed is a consultant gastroenterologist at University Hospital Southampton NHS Foundation Trust and visiting consultant at East Sussex Healthcare NHS Trust, Eastbourne. He is also an honourable senior clinical lecturer at the University of Southampton UK. His research interests include investigating the changes in the smell of faeces and breathe in order to understand the pathophysiological mechanisms of GI disorders and to develop a non-invasive biomarker. Through formal laboratory research, Ahmed studied the faecal volatile metabolomics profiles of patients with liver disease (NAFLD), IBD and irritable bowel syndrome (IBS) in comparison with healthy individuals, and was awarded the degree of doctorate of medicine (MD) by University of the Bristol in 2012.

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VOLATILE ORGANIC METABOLITES AS NOVEL, NON-INVASIVE DIAGNOSTIC BIOMARKERS IN INFLAMMATORY BOWEL DISEASE

The diagnosis of inflammatory bowel disease (IBD) requires extensive and often invasive investigations including colonoscopy and histology and places a heavy burden, both on healthcare resources, because of the cost, and on the individual, in times of disease-related disability and poor quality of life. Recently, there has been increasing interest in non-invasive biomarkers to diagnose IBD and to monitor the disease activity. There is growing scientific interest in the investigation of volatile metabolites and numbers of studies have focused on the utilization of non-invasive biomarkers in the diagnosis of GI disease.

The development of sophisticated analytical techniques has enabled the study and interpretation of changes in the faecal and breath volatile organic metabolites (VOMs) and its correlation with the pathophysiological mechanisms in IBD. VOMs are the chemicals that are the products and intermediates of metabolism and may be altered during the diseases process. Changes in the signature of VOMs could potentially provide diagnostic information about health and disease. Multiple studies have reported the differences in VOM profiles of healthy controls vs. patients with IBD other GI disorders. VOM profiles have been used to segregate patients by disease activity and the type of disease. The correlation of VOMs with microbiota is interesting and supports the hypothesis of gut microbial dysbiosis in the etiology of IBD. This provides an important platform to explore the role of dysbiosis in IBD and other GI disorders pathogenesis and development of novel therapeutic targets. In future, further understanding of faecal VOMs may lead to the development of a rapid and simple point of care diagnosis and monitoring of IBD.

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