

Volatile organic metabolites as novel, non-invasive diagnostic biomarkers of Gastrointestinal disorders

Iftikhar Ahmed

University of Southampton, UK

The Diagnosis of Gastrointestinal (GI) disorders 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 different GI diseases 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 the GI

diseases. 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 liver and 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 liver disease. This provides an important platform to explore the role of dysbiosis in liver 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 Liver.

e: ftikhar.ahmed21@gmail.com