

# Kamaljit Kaur Chatha—Consultant Clinical Biochemist



My research interest initially started at New Cross Hospital, Wolverhampton, in 2002, with my BSc project. In this project, I investigated the measurement of hsCRP in the South Asian population to identify high risk patients that could not be identified by current biochemical markers, such as those in the Framingham Risk Equation. Part of this research not only looked at the measurement itself, but also to the analytical variance that can lead to differences in results, particularly around stability in sample tubes.

The use of novel biomarkers to identify risk in high risk patients continued with my research into the use of baseline BNP in patients with suspected reversible myocardial ischaemia undergoing exercise stress tests. In this case, baseline BNP could not differentiate those with ischaemia before the

exercise stress test. More recently, I have investigated the role of Chemerin, a novel adipokine involved in adipogenesis, angiogenesis, inflammation and energy metabolism.

The mixture of pre-analytical variation and novel biomarkers, initiated further involvement looking at the methylation patterns of the GNAS1 gene in cell free plasma DNA to provide more accurate Down's Syndrome Screening, which was undertaken at the University of Warwick as part of the MSc in Clinical Biochemistry project.

For sometime now, I have also built on my interest in the measurement and use of Hepcidin, an important protein in iron metabolism. I first worked on this in collaboration with a group at Oxford University who were looking at the link between Hepcidin and viral load in patients with HIV; which is pertinent to the current pandemic. More recently, as part of my project for FRCPATH, I developed a Hepcidin method by LC-MS/Mass Spectrometry in a healthy population and developed reference ranges.

More recently, I have been involved in research into the COVID-19 virus as a collaborator, but also leading research into the correlation of cardiovascular disease and biomarkers. I continue to work on developing and leading research in the Biochemistry and Immunology Department as Consultant Clinical Scientist and Deputy Director of the Bowel Cancer Screening Midlands and North West Hub. I am currently developing a Mass Spectrometry service, which is an important specialized tool in research. I have a particular interest in the use of biomarkers to improve precision medicine, which I continue to pursue.