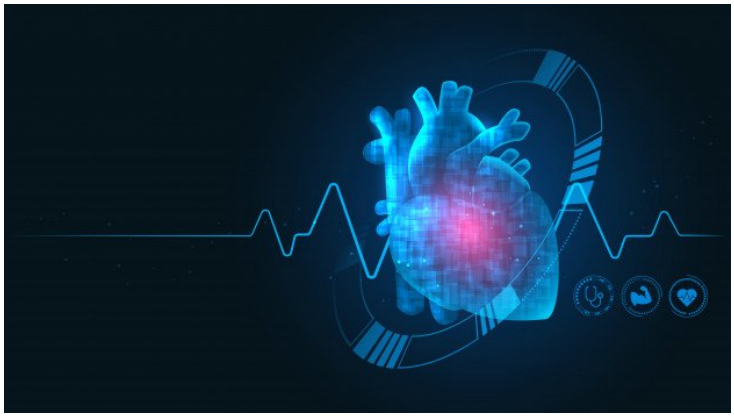
BioSpectrum
the business of Bio & Health Sciences
ASIA EDITION

Researchers find MiRNA biomarker to detect early-stage pulmonary hypertension (PH)

October 6, 2020 | News

A recent study by MiRXES aimed at assessing miRNA-based biomarker signatures in patients to detect early-stage PH using its proprietary assay technology and biomarker discovery platform



MiRXES a leading microRNA (miRNA) diagnostic company headquartered in Singapore, in collaboration with Actelion Pharmaceuticals Ltd, one of the Janssen Pharmaceutical Companies of Johnson & Johnson, has presented the preliminary results of a study revealing that miRNA biomarker signatures have the potential to support early identification and diagnosis of pulmonary hypertension (PH). The data were presented in September 2020 at the annual European Respiratory Society (ERS) International Congress.

There is currently no simple, non-invasive test to identify and diagnose PH, a serious condition which results in high blood pressure in the blood vessels that supply the lungs. Pulmonary arterial hypertension (PAH) is a progressive form of PH that takes, on average, two years to diagnose from the onset of symptoms. Many patients are diagnosed at an advanced stage of the disease while many others remain unidentified. As PAH is progressive, delays in diagnosis can prevent early treatment and impact on patients' prognoses, worsening clinical outcomes and survival.

Aaron Waxman, M.D., Ph.D., Director of the Pulmonary Vascular Disease Program at Brigham and Women's Hospital, Boston, USA, and Associate Professor of Medicine at Harvard Medical School said, "Assessment of the biomarker N-terminal pro-brain natriuretic peptide (NTproBNP) is routinely used in PH centers today, but this measure is not specific for PH and can be elevated in patients with almost any type of heart disease, making its utility in detecting PH very limited, especially in the early stages."

Increasing evidence suggests that patients with borderline PH (bPH) and exercise PH (ePH) may represent those in the early stages of PH. This study aimed to assess miRNA-based biomarker signatures in patients in the early stage of the disease, as well as those with established PH using MiRXES' proprietary assay technology and biomarker discovery platform. The analysis showed that miRNAs may uniquely identify early stages of PH, prior to disease progression. The results also showed that combining miRNA with NTproBNP allows distinguishing of non-PH symptomatic patients from established PH patients.

Building on these data, Janssen has initiated the CIPHER trial, the design of which is also being presented at ERS. The CIPHER trial is an ongoing, prospective, multicentre study that aims to identify miRNA biomarker signatures for early detection of pulmonary hypertension.

Additional clinical studies are being planned in Asia, starting with Singapore and Japan, to provide further evidence to support the development and validation of the miRNA-based diagnostic test for early identification and diagnosis of PH.