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ASIA EDITION

Singapore develops drug molecule for treating atrial fibrillation

July 18, 2022 | News

Efficacious and safe drug candidate circumvents adverse side effect of existing drug for irregular heart rhythm



Scientists from the National University of Singapore (NUS) Department of Pharmacy have developed an improved pharmaceutical drug for the treatment of the most common heart rhythm disturbance – atrial fibrillation (AF). The 8-member research team took 8 years to achieve this technological breakthrough which could benefit millions of AF patients worldwide.

AF is a serious condition that can lead to heart failure, early mortality and stroke. For AF patients, there are currently medications which are used to control AF and maintain normal rhythm. Ironically, these drugs whilst treating AF can promote a different type of heart rhythm disturbance in the lower heart chambers, also known as ventricular arrhythmia, which is potentially more dangerous or even fatal. Some of these existing AF medications are also toxic to other organs such as the liver, lungs and thyroid gland. Hence, there is an unmet need to develop efficacious and safer medications to treat AF.

Patents have been filed for the new drug candidate, termed as poyendarone. The research team has tested poyendarone in laboratory studies and the promising results position the drug to be a gamechanger with greater safety and efficacy for clinical trials. It is noteworthy that there has not been a regulatory approved AF drug since 2009.

The research team is looking into opportunities to conduct relevant clinical trials that will establish drug safety and efficacy, allowing for regulatory approval and commercial availability.

Image credit- Prof Eric Chan (second from right) led the NUS research team which also comprised (from left) Adjunct Assoc Prof Pipin Kojodjojo, Dr Gopal Venkatesan and Leow Wen Hui, Jacqueline.