Ageing heart can be prevented, say scientists

(Reuters) - Scientists in Japan said they have uncovered evidence that shows it may be possible to delay or prevent heart failure in humans.

In a paper published in the journal Circulation, Tetsuo Shioi, lead researcher and assistant professor of medicine at Kyoto University Graduate School of Medicine in Kyoto, and his team described how they managed to suppress a variety of the P13K gene in a group of elderly mice.

The gene regulates the lifespan of cells and plays a role in the aging of tissues. In previous studies, suppression of this gene extended the lifespan of the roundworm and kept the hearts of old fruit flies healthy.

Compared with another group of mice in which the gene was left intact, mice with the suppressed gene had improved cardiac function, less fibrosis (which makes the heart inflexible) and fewer biological markers of aging.

"This study showed that aging of the heart can be prevented by modifying the function of insulin and paves the way to preventing age-associated susceptibility to heart failure," Shioi said.

Old age is a major risk factor for heart failure, a condition when the heart is unable to pump enough blood around to supply the oxygen the body needs, the World Health Organization says.

According to the American Heart Association, 5.7 million Americans have

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heart failure, and nearly 10 out of every 1,000 people over age 65 suffer heart failure every year.

Mariell Jessup, professor of medicine at the University of Pennsylvania School of Medicine in Philadelphia, said older people experience a slow but gradual loss of heart cells and a host of other cellular abnormalities which make the remaining cells contract less efficiently.

"This early work in a mouse model, clarifying the role of PI3K in cardiac aging, could ultimately allow scientists to understand if human hearts are similarly influenced," he said.

As mammals, mice are considered a good surrogate for studies of human diseases and conditions; their body plan, physiology and genome share many features with humans.

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