

Tulane finds childhood asthma may lead to thickening of left ventricle in adulthood

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Young adults with a history of asthma are at a greater risk of thickening of the left ventricle, which can cause shortness of breath, chest pain, fainting, and eventually lead to heart failure, according to research from the Tulane University School of Public Health and Tropical Medicine published in *JACC: Heart Failure*.

The left ventricle pumps blood from the heart to the rest of the body. In left ventricular hypertrophy, the ventricle thickens due to a chronic increase in pressure and overwork. Left ventricular mass index, a cardiac subclinical measure indicating the extent of left ventricular hypertrophy, predicts incident events, progression and severity stages of heart failure. Thickness of the left ventricle is also an independent risk factor of death and major cardiovascular outcomes.

The prevalence of asthma has been growing during the past decade, occurring in an estimated 8.6 percent of children and 7.4 percent of adults.

Researchers examined 1,118 patients who answered a questionnaire on their asthma history. During about 10 years of follow-up, subjects with a history of asthma had a higher adjusted mean of left ventricular mass and left ventricular mass index compared to those without asthma. Systolic blood pressure significantly modified the association of asthma with left ventricular mass and left ventricular mass index.

The positive association of asthma with left ventricular mass and left ventricular mass index was more prominent in patients with prehypertension and hypertension.

While previous studies have found asthma to be related to other cardiovascular conditions, this is the first study to find an association between a history of asthma from childhood and left ventricular mass in adulthood.

“Our findings suggest aggressive lifestyle modifications or even pharmacological treatment may be applied to people with a history of asthma, especially those also affected by high blood pressure, in order to lower cardiovascular risk.”

Dr. Lu Qi, director of the Tulane University Obesity Research Center and professor of epidemiology