NEJM Journal Watch

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Aortic Stenosis and Dyslipidemia

A study using a Mendelian randomization design finds causal associations between elevated total cholesterol and LDL levels and AS.

To date, aortic stenosis (AS) has no recommended prevention strategies, and statins have failed to slow disease progression in randomized trials. However, questions remain about whether dyslipidemia is associated with the condition. In a study employing a Mendelian randomization design, researchers used the random allocation of alleles associated with dyslipidemia to assess causal links from dyslipidemia to AS or to aortic regurgitation (AR) and mitral regurgitation (MR) in 432,173 participants from the UK Biobank.

Using diagnostic codes for the determination of valvular disorders, the researchers identified 1961 participants with AS, 2213 with MR, and 736 with AR. Evidence of causal associations was found between AS and LDL, total cholesterol, and triglycerides. The estimated odds ratios were 1.64 for every 18 mg/dL increase in LDL, 1.82 for every 20 mg/dL increase in total cholesterol, and 1.55 for every 18 mg/dL increase in triglycerides. No associations were found between HDL and AS, and none were evident between dyslipidemia and AR or MR.

COMMENT

This study provides some evidence that dyslipidemia can contribute to AS. The use of diagnostic codes to ascertain AS is a study limitation, but this should have weakened the associations and, therefore, actually strengthens the study's conclusions. However, these results are not yet ready to be translated into clinical recommendations, but they are likely to lead to more studies. Of note, only a small percentage of the participants in the UK Biobank had AS. ***— Harlan M. Krumholz, MD, SM***

Dr. Krumholz is the Harold H. Hines, Jr., Professor of Medicine in the Section of Cardiovascular Medicine at the Yale University School of Medicine, New Haven, Connecticut.

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