Long term prognosis of intramural course of coronary arteries in patients with hypertrophic cardiomyopathy assessed by coronary CT angiography

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Background: The prognostic value of an intramural course of the coronary arteries detected by coronary CTA in patients with hypertrophic cardiomyopathy (HCM) is not well-known.

Purpose: To evaluate in patients with HCM, who were referred for coronary computed tomography angiography (CTA), whether an intramural course of a coronary artery is associated with a worse outcome compared to HCM patients without an intramural course of the coronary arteries.

Methods: The study population consisted of 92 patients with HCM who were referred for coronary CTA and who did not have obstructive CAD. During follow-up, the occurrence of unstable angina pectoris that required hospitalization, myocardial infarction, and all-cause mortality was evaluated (i.e. adverse cardiac events).

Results: Using coronary CTA, 57 patients (62%) had an intramural course of coronary arteries. Patients with HCM were followed over 5.5±3.5 years. The composite of adverse cardiac events occurred in 17/57 (29.8%) patients with, and 11 out of 35 (31.4%) patients without intramural course (P=0.87). The event rate of unstable angina pectoris requiring hospitalization (28.1% vs. 22.9%), myocardial infarction (1.8% vs. 8.6%), and all case mortality (0.0% vs. 0.0%) was similar in patients with and without an intramural course.

Conclusion: Intramural course of coronary arteries in patients with HCM was frequently observed by coronary CTA, but it was not associated with worse cardiovascular clinical outcome.