ASSOCIATION OF TENDON XANTHOMAS WITH CAROTID ATHEROSCLEROSIS IN PATIENTS WITH FAMILIAL HYPERCHOLESTEROLEMIA

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Background: Heterozygous familial hypercholesterolemia (hFH) is an inherited disorder of lipoprotein metabolism, which is associated with early atherosclerotic disease. Subclinical carotid atherosclerosis expressed by intima-media thickness (IMT) is a predictor of cardiovascular risk. We investigated whether the presence of tendon xanthomas is associated with carotid atherosclerosis in patients with hFH.

Methods: We studied 41 first-diagnosed, never-treated hFH patients without hypertension, diabetes or known coronary artery disease. The presence of tendon xanthomas was evaluated by physical examination of upper and lower extremities of the patients. IMT was measured in the far wall of both common and internal carotid arteries by using 2D ultrasonography.

Results: Patients with tendon xanthomas (N=16) did not differ from the patients without xanthomas (N=25) in terms of age (35.0±15 vs. 38.4±12 years), total cholesterol (326±48 vs. 329±51 mg/dl), triglycerides (102±58 vs. 94±39 mg/dl), HDL-cholesterol (60±16 vs. 61±10 mg/dl) and LDL-cholesterol (246±53 vs. 246±51 mg/dl) (P=NS for all comparisons). Although there was no difference in common carotid IMT (0.74± 15 vs. 0.76±13 mm, P=NS), patients with xanthomas had higher IMT of internal carotid arteries compared with patients without xanthomas (1.02±0.34mm vs. 0.85±0.21 mm, P=0.05). Multivariable analysis showed that the above difference was independent of age, sex and systolic blood pressure (P=0.028).

Conclusion: In never-treated hFH patients, the presence of tendon xanthomas is independently associated with increased internal carotid IMT, which is a predictor of cardiovascular risk.