Vessels and Endothelium

12.23 Relationship between Carotid Artery Stiffness Assessed with Etracking and Carotid Plaque Echogenicity in Hypertensive Patients
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Introduction. Plaques that appear echolucent on B-mode ultrasound are lipid-rich, whereas echogenic plaques have a higher content of fibrous tissue and calcification.

Aim. To evaluate carotid artery stiffness parameters in patients with echogenic plaque and patients with echolucent plaques.

Methods. We have observed 50 hypertensive patients with carotid plaque. Carotid artery stiffness parameters were assessed by e-tracking on the left carotid (in free plaque area) with ALOKA_10 ultrasound system. Elastic pressure (Ep) and stiffness parameter (β) were measured. Carotid plaque echogenicity was graded from 1 (plaque appearing black or almost black) to 4 (plaque appearing white or almost white) according to the Gray-Weale classification. Plaques of grades 1 and 2 were defined as echolucent plaques, and plaques of grades 3 and 4 were defined as echogenic plaques. Patients were divided in two groups (A and B) according plaque echogenicity.

Results. Ep (Kpa) 110 ± 31 , β 8.5 ± 2 , of group A (echogenic plaque), were increased when compared with group B (echolucent plaque) $p<0.05$ (see table).

	Group A	Group B	p
N*	27	23	
Age (y)	62 ± 3	55 ± 3	<0.05
PAS (mmHg)	145 ± 10	143 ± 3	n.s.
PAD (mmHg)	85 ± 5	86 ± 4	n.s.
Total cholesterol (mg/dl)	223 ± 13	244 ± 18	<0.05
Ep (Kpa)	138 ± 21	126 ± 15	<0.05
β	12 ± 2	10 ± 3	<0.05

Conclusions. Carotid arterial stiffness assessed by e-tracking was increased in hypertensive patients with echogenic plaques. Probably it depend by the same systemic pathophysiological process leading to connective tissue extracellular matrix accumulation.