Increased two-year cerebrovascular event rate in patients with bilateral high carotid temperatres

Authors:
G Benetos¹, K Toutouzas¹, G Oikonomou¹, I Koutagiar¹, M Karmpalioti¹, N Barampoutis², P Davlouros², E Siores³, P Sfikakis⁴, D Tousoulis¹, ¹Hippokration Hospital, University of Athens, 1st Department of Cardiology - Athens - Greece, ²University Hospital of Patras, Department of Cardiology - Patras - Greece, ³University of Bolton - Bolton - United Kingdom of Great Britain & Northern Ireland, ⁴University of Athens - Athens - Greece,

Topic(s):
Stroke: Carotid Stenosis

Citation:
Introduction: The association of carotid plaque inflammation with cerebrovascular events is a matter of rigorous research. Microwave Radiometry (MWR) allows in vivo noninvasive measurement of the internal temperatures of tissues, reflecting inflammation.

Purpose: To investigate whether increased carotid temperatures in patients with documented coronary artery disease (CAD) are associated with cerebrovascular events.

Methods: Consecutive patients with significant CAD from three tertiary centers were included in the study. Maximum carotid plaque thickness was assessed in all carotids by ultrasound. ?T by MWR was assigned as the temperature difference (maximal minus minimum) along the carotid artery. ?T =0.90°C was assigned as high ?T. All patients were followed-up clinically for two years and all strokes were adjudicated by an independent committee. Transient ischemic attacks were excluded.

Results: In total 300 patients were included in the study. High ?T temperatures bilaterally were measured in 47 patients (15.7%). Three patients (1.0%) suffered a stroke, including one fatal. Stoke rate was 4.3% in the group with bilateral high ?T and 0.4% in non-high ?T group (p=0.02). In Kaplan-Meier plot patients with bilateral high ?T showed higher stroke rate (log-rank p=0.004, figure)

Conclusions: Bilateral high carotid temperatures are associated with increased two-year stroke rate. The potential value of the present finding in risk stratification of intermediate carotid stenosis mandates further investigation.
Abstract: P3716

Increased two-year cerebrovascular event rate in patients with bilateral high carotid temperatures

Authors:

G Benetos 1, K Toutouzas 1, G Oikonomou 1, I Koutagiar 1, M Karmpalioti 1, N Barampoutis 2, P Davlouros 2, E Siores 3, P Sfikakis 4, D Tousoulis 1
1 Hippokration Hospital, University of Athens, 1st Department of Cardiology - Athens - Greece,
2 University Hospital of Patras, Department of Cardiology - Patras - Greece,
3 University of Bolton - Bolton - United Kingdom of Great Britain & Northern Ireland,
4 University of Athens - Athens - Greece.

Topic(s):

Stroke: Carotid Stenosis

Citation:

Introduction: The association of carotid plaque inflammation with cerebrovascular events is a matter of rigorous research. Microwave Radiometry (MWR) allows in vivo noninvasive measurement of the internal temperatures of tissues, reflecting inflammation.

Purpose: To investigate whether increased carotid temperatures in patients with documented coronary artery disease (CAD) are associated with cerebrovascular events.

Methods: Consecutive patients with significant CAD from three tertiary centers were included in the study. Maximum carotid plaque thickness was assessed in all carotids by ultrasound. ΔT by MWR was assigned as the temperature difference (maximal minus minimum) along the carotid artery. ΔT = 0.90°C was assigned as high ΔT. All patients were followed clinically for two years and all strokes were adjudicated by an independent committee. Transient ischemic attacks were excluded.

Results: In total 300 patients were included in the study. High ΔT temperatures bilaterally were measured in 47 patients (15.7%). Three patients (1.0%) suffered a stroke, including one fatal. Stroke rate was 4.3% in the group with bilateral high ΔT and 0.4% in non-high ΔT group (p=0.02). In Kaplan-Meier plot patients with bilateral high ΔT showed higher stroke rate (log-rank p=0.004, figure).

Conclusions: Bilateral high carotid temperatures are associated with increased two-year stroke rate. The potential value of the present finding in risk stratification of intermediate carotid stenosis mandates further investigation.