

Relation between carotid plaques and risk factors for atherosclerosis in hypertensive and non-hypertensive subjects



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Abstract

The aim of this study was to evaluate in hypertensive and non-hypertensive subjects the correlation between carotid plaques (CP) and several risk factors for atherosclerosis (age, smoking, diabetes mellitus, dyslipidemia, antihypertensive therapy, obesity, gender) as well as the mean values of blood pressure (BP) calculated on 24h, daytime and nighttime, using ambulatory BP monitor. Eighty-nine patients (aged between 60 and 90 years) from the Geriatric Department of the University of Trieste along the year 2019 were examined. The study was conducted according to Declaration of Helsinki and all subjects gave their informed consent. The clinical classification of subjects with hypertensive BP was done according to 2013 ESH/ESC guidelines i.e. they had office systolic BP (SBP) ≥ 140 mmHg or diastolic BP (DBP) ≥ 90 mmHg. Thus 48 patients were classified as hypertensive and 41 subjects as non-hypertensive. We calculated the percent occupied area of blood vessel by CP using echo color Doppler scanning. BP was measured both in office and in ambulatory way carried out using a Holter BP Monitor. The relation between CP and risk factors was assessed by correlation coefficients. In non-hypertensive subjects, we found significant (>33%) positive correlations ($p < 0.04$) between CP and smoking, age and mean values of SBP calculated on 24h, night and day periods and a significant (32%) negative correlation ($p < 0.05$) with office DBP. Hypertensive subjects presented a significant (31%) positive correlation ($p < 0.05$) between CP and age and a significant (31%) negative correlation ($p < 0.03$) with mean values of DBP calculated on 24h, night and day periods.

Biography:

Giulia Silveri received the Postgraduate degree in Clinical Engineering and she is working toward the Ph.D. degree in information engineering at the University of Trieste. Her research concerns biomedical signal analysis in particular blood pressure and heart rate variability. Agostino Accardo is an Associate Professor of biomedical engineering at the University of Trieste. His research interests include image and biomedical signal analysis (mainly ECG, EEG and eye movement), biomedical instrumentation design. He is author of more than 200 papers published in international journals or presented at international conferences.

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