Epidemiology

3.10 Assessment of Pulse Wave Velocity and Cardiovascular Risk Stratification in a General Population: the Vobarno Study

M. Salvetti (1), M.L. Mulesan (1), A. Pains (1), C. Monteduro (1), E. Belotti (1), C. Corbellini (1), G. Galbassini (1), C. Agabiti-Rosei (1), L. Micheletti (1), C. Aggiusti (1), F. Marino (1), F. Bertacchini (1), E. Agabiti-Rosei (1)

(1)Università di Brescia, Brescia, Italy

Introduction. Hypertension guidelines underline the importance of quantification of total cardiovascular (CV) risk; an extensive evaluation of target organ damage (TOD) may increase the number of patients classified at high added CV risk.

Aim. To assess the effect of the evaluation of different forms of TOD, in addition to 'routine' work-up, on CV risk (CVR) stratification in a general population sample in Northern Italy.

Methods. In 385 untreated subjects (age 57 ± 10 years, 44% males, 64% hypertensive patients [HT], 32% treated) left ventricular and carotid artery structure and carotido-femoral PWV were measured. All subjects underwent laboratory examinations. Subjects were classified into risk categories according to ESH/ESC guidelines before and after TOD evaluation.

Results. After routine work up patients were classified as follows: 7% at average CVR, 35% at low CVR, 26% at moderate CVR, 31% at high CVR and 1% at very high CVR. The proportion of patients at low or moderate CVR reclassified at high CVR were 6 %, 12%, 14% and 32% after echocardiography, albuminuria, PWV and carotid ultrasound respectively (chi square $p < 0.001$ for all vs routine). Assessment of PWV in addition to echocardiography lead to an increase of the proportion of patients at high CVR (from 6% to 17%, $p < 0.001$), as for PWV in addition to albuminuria (from 12 to 22%, $p < 0.01$) but did not affect risk stratification in addition to carotid ultrasound (from 32% to 35%, $p = \text{NS}$).

Conclusions. Our data suggest that measurement of PWV may significantly change CVR stratification in addition to echocardiography and to detection of albuminuria, but not after carotid ultrasound; our results confirm that evaluation of different forms of TOD is useful for a more accurate assessment of global CVR.