

**Topic category:** Women in Physiology

## **Subclinical Carotid Disease in Elderly Women is Associated with Cardiac Hypertrophy and Ageing**

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**Introduction:** Women have a higher risk of stroke and poorer functional outcomes after stroke than men. Moreover, with the increase in the aging population, prevalence of stroke survivors among elderly women is projected to increase.

**Objective:** The aim of this study was to investigate sex differences between the carotid, cardiac and vascular imaging markers of risk in elderly with subclinical carotid disease.

**Material and Methods:** This was a cross-sectional observational study on a cohort of 100 subjects aged more than 50 years. Carotid intima-media thickness (CIMT), plaque score and resistive index, left ventricular (LV) wall thickness and ascending aorta diameter were determined by echography.

**Results:** The right CIMT had a significantly positive correlation with the LV wall thickness and the ascending aorta diameter in women (Spearman's  $r = 0.31$  and  $0.31$ ,  $p < 0.05$ ) but not in men. The right CIMT, LV thickness and aortic diameter were positively correlated with age only in women (Spearman's  $r = 0.33$ ,  $0.40$  and  $0.26$  respectively,  $p < 0.05$ ). Right CIMT correlated with the plaque score at both sexes (Spearman's  $r = 0.36$  in women and  $0.37$  in men,  $p = 0.01$ ).

**Conclusions:** The association of carotid, cardiac and vascular risk factors may contribute to a worse subclinical carotid disease deterioration in elderly women. In this selected age group by sex, the combined assessment of more than one cardiovascular risk imaging biomarker may be required.

**Keywords:** carotid disease; elderly women; cardiac hypertrophy; ageing; sex-differences; ultrasonography