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Ultrasonic Measurement of Carotid Intima-Media Thickness in a Group of Iranian with No Cardiovascular Risk Factors

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Abstract:

Background/Objective: To obtaining reference values for intima-media thickness (IMT) of the carotid arteries in the Iranian subjects without any known atherosclerosis risk factors. Patients and Methods: A total of 400 subjects (146 male and 254 female, mean age 36.3 ± 14 years in men and 35.9 ± 12 years in women), with normal body mass index and no history or evidence of cardiovascular or peripheral vascular disease, hypertension, diabetes, thyroid diseases or smoking were examined. IMT was measured on a longitudinal ultrasound image of the carotid artery. Mean thickness was evaluated for the right common carotid (RCCA), right internal carotid (RICA), left common carotid (LCCA) and left internal carotid (LICA). Results: The mean value of carotid IMT was 0.38 ± 0.11 in women and 0.41 ± 0.13 in men. For different age groups, the lowest mean thickness was 0.305 ± 0.045 , seen in the RCCA among 20–29-year-old cases, and the highest was 0.645 ± 0.125 , seen in the LICA of cases over 60. The mean thickness was higher in men than in women, in all four locations (all p values < 0.02). Linear regression models for prediction of IMT by age, were separately done in different groups of anatomical location and gender, and all models' R² were higher than 0.5. Conclusion: Mean IMT in RCCA, RICA, LCCA and LICA in both genders and different age dec-ades was lower than many reports, which may be due to ethnic factors or different inclusion criteria. Reference values of carotid IMT increase significantly with age and IMT is higher in men than in women.

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