INTRODUCTION: Carotid Intima-Media Thickness (IMT) is used widely to assess an individual's risk of myocardial infarction and stroke. Although significant associations have been showed, IMT as used in major studies does not improve prediction of cardiovascular events much compared to traditional risk factors. Therefore, a new approach to IMT-measurements is sought-after by examining the wall structure continuously throughout several heart cycles. MATERIALS AND METHODS: Computerized single-image analysis (IA) and sequential analysis (SA) were used to assess latter's capability in predicting risk of cardiovascular disease and to compare both. Healthy subjects (mean +/- S.D., age 46.1 +/- 5.6 years, n=490) were compared with subjects suffering from confirmed coronary artery disease (CAD) (mean +/- S.D., age 47.3 +/- 6.2 years, n=51). RESULTS: SA could differentiate between both groups better than single IA, especially when looking at the maximal and mean IMT-values (SAIA, pp<0.05). The area under the curve (AUC) for maximal and mean IMT was greater for sequences then for single images as well. DISCUSSION: Due to our findings sequential analysis can offer an extensive and complete examination of the carotid wall with a maximal reduction of bias. Commonly used IA may disguise vascular conditions and therefore the patient's risk, since
IMT-values, as proven with SA, seems to usually be higher. Therefore, the need for further studies arises, examining if and to what extend common IMT-studies underestimate differences between groups.

Zeitschriftentitel / Abkürzung:
Atherosclerosis

Jahr: 2007
Band: 195
Heft / Issue: 2
Seiten: e203-9
Sprache: eng


Print-ISSN: 0021-9150

TUM Einrichtung:
ventive und rehabilitative Sportmedizin

Occurences:
· Einrichtungen > Fakultäten > Fakultät für Medizin > Kliniken und Institute > Poliklinik für Präventive und Rehabilitative Sportmedizin > 2007

entries: