Reviewer's report

Title: Sequentially based analysis versus image based analysis of Intima Media Thickness in common carotid arteries studies a Do major IMT studies underestimate the true relations for cardio- and cerebrovascular risk?

Version: 1 Date: 8 February 2008

Reviewer: Anca Irina Corciu

Reviewer's report:

This study shows that the sequential analysis of the carotid intima-media thickness has a higher correlation to risk factors than image based analysis and the authors suggest the using of sequential analysis as a method for a robust measurement of IMT and cardiovascular risk.

The same authors published recently (Atherosclerosis 195 (2007) e 203-209) a similar study on a smaller population (541 patients- 490 healthy and 51 with CAD), where they concluded that sequential analysis (SA) resulted in higher measured IMT-values then measurements based on a single image and that the differentiation between healthy people and those suffering from cardiovascular disease was superior with SA.

The authors of the present study should specify if these findings on a bigger population (2500 patients) are a reinforcement of the results already published. If the answer is yes, for publishing in our journal they should change the form of the article.

There are several major comments I would like to make:

1- Please, study the Journal pre-submission checklist; there are 2 lists of references and also the numbers of the references in the text are doubled.

2- Please, correct the spelling mistakes (for example, Abstract: line 3- sufficient)

3- In Materials and Methods you wrote the abbreviation for healthy subjects, but it's not used in the rest of the article.

- the patients were scanned by six experienced ultrasonographic observers; do you have any data about the inter- and intra-observer variability?


4- You mentioned Table 1 twice- in the chapter Materials and Methods, and also in Results; please, mention it only once.

5- It's been used Framingham risk score to estimate the individual coronary heart disease (CHD) risk level; maybe it would be useful to divide the entire population in groups at different risk to develop a CHD using the Framingham risk score (low-average-high risk)

6- Please, re-make Table 1 (cutting the first line, specifying that Systolic and Diastolic is the blood pressure, explaining what does it mean Framingham CDH
risk level), Table 4 (cutting ECG position, explaining what does it mean RR).

**What next?:** Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.