Reviewer's report

Title: The impact of aging and atherosclerotic risk factors on transthoracic coronary flow reserve in subjects with normal coronary angiography

Version: 1 Date: 2 May 2012

Reviewer: Antti Saraste

Reviewer's report:

Calderisi et al. have studied effects of age and risk factors of atherosclerosis on coronary flow velocity as assessed by transthoracic Doppler echocardiography in subjects without angiographic coronary artery disease. CFR decreased, whereas resting flow velocity and the incidence of risk factors increased by aging. Aging, hypertension, hypercholesterolemia, diabetes as well as left ventricular hypertrophy were independently associated with low CFR.

General comments:
The topic is important as there is a lot of interest in determining the normal values and determinants of resting and maximum coronary flow with different imaging modalities. The study reports interesting observations in a large population.

Minor/Discretionary Revisions

Contributions of ageing vs. risk factors for CAD on resting and hyperaemic flow are difficult to differentiate in a population studied for suspected CAD and increasingly high prevalence of risk factors and LVH with age. One more attempt to do this is could be analysis of group of patients that did not have any risk factors (that were carefully determined in the study). Unless the number of subjects is very small, I think this could provide one more interesting piece of information on the independent effect of aging.

I think it is interesting that maximal dipyridamole–induced flow velocity was comparable among age groups. I think it would be of interest to see whether some of the risk factors included in the multivariable analysis (Table 4) were predictive of reduced maximum flow during dipyridamole in addition to CFR.

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.

Declaration of competing interests:
no