Editorial Comment

Atherosclerosis in the elderly: a heavy burden to bear

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The World Health Organization estimates there are over thirty-two million major atherothrombotic events occur worldwide each year with nearly seventeen million directly attributable deaths. Atherothrombosis as the name refers to blood clot formation within an arterial vessel. It may occur de novo, usually over an atherosclerotic segment of the vessel, or embolised from a proximal source. These clots cause the blood vessel lumen to become totally or sub-totally occluded and, depending on the site and supply, lead clinically to unstable angina and myocardial infarction, ischemic strokes or leg claudication. Acute myocardial infarction (AMI) alone account for 25% of all deaths in the United States and is the leading cause of death in the world including many of the developing countries. It is of little surprise therefore that from the cardiologists’ standpoint, the bulk of our work whether as researchers or clinicians have been channelled towards the prevention, regression or at least delaying the process of atherothrombosis and minimizing its risk of recurrence. Yet we must be mindful that atherothrombosis is a generalized and progressive disease. Indeed over a quarter of patients with vascular disease would involve 2 or more vascular beds in their lifetime. For example, patients with a first stroke or peripheral arterial disease (PAD) has a 2 to 4-fold increased risk of AMI. Patients who have had an AMI are themselves at 5-fold increased risk of a further heart attack. The life-expectancy of patients with a history of stroke, PAD or myocardial infarction is also reduced. But to screen all patients with suspected cardiovascular disease for concomitant peripheral disease would lead to unnecessary risks from longer radiation exposure, higher amount of contrast used and costs. Hence the original article by Rigatelli et al in this issue addresses an important issue on which patient scheduled for coronary angiogram should also undergo aorto-iliac studies. Indeed the clinical issue of whether it is justified to perform additional scans is also highlighted here.

The article is a retrospective review of all patients over the age of 75 years who underwent coronary angiography and concurrent abdominal aorto-iliac angiography according to accepted indications. The final cohort included thirty percent who did not have symptoms or risk factors of ischemic heart disease and who underwent angiography routinely prior to valvular operation. It is peculiar however that only 30 cases of peripheral disease were detected (assuming each lesion referring to one patient) when the cohort included 76 patients with absent or reduced femoral pulses - bearing in mind also that the majority of patients had one or more risk factor for atherosclerosis and over 220 patients have coronary disease. Indeed one would suspect that there would be a correlation between peripheral artery disease and presence/severity of coronary disease. Instead the only correlation data available was between coronary artery disease (CAD) and aorto-iliac aneurysm. Here too, relevant data is missing, for example, what is the definition of CAD and does it include all degrees of stenosis? What is the mean blood pressure in the 4 groups listed in Table 4 and what is the breakdown of presence of cardiovascular risk factors. These parameters are also important when breaking down patients with and without significant renal artery stenosis and abdominal aortic aneurysm. Finally, although it can not be argued that patients of any given age with cardiovascular risk factors and other indications (clinical or investigatory) suggesting possible underlying peripheral artery disease requires angiographic studies in these vascular beds, the authors specific use of age cut-off of over 60 years gives concern. In particular, the paper has not detailed age as an independent predictor for presence of peripheral artery disease despite an age range of 10 years (75-85 years) and the paper has set out specifically to evaluate patients over 75 years only. Therefore a recommendation that concurrent peripheral angiography to be efficient is beyond the scope of this article. Nevertheless Rigatelli has tried to highlight an oft-neglected issue, that the generalized burden of atherosclerosis is just as important among very elderly patients as they are among the younger population.

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