that objective grading in combination with Pulsatility Index can be a reliable method to predict the long term outcome of coronary artery surgery in diffusely diseased vessels. The only point I would like to raise is regarding the mechanical trauma which can result from probing the coronaries. Probing of vessels with hard atheromas may remain atraumatic and safe. However, probing may not be a sensible option or at least would require a great deal of discretion to avoid complications in those occasional situations when a coronary starts exuding cheesy material while doing arteriotomy.

Reference


ICVTS on-line discussion E

Title: Severity of CAD not associated with operative mortality?
Author: Dimitrios C. Angouras, Athens University Medical School, 45 Aytokratoros Irakleiou Street, 15122 Marousi, Athens, Greece
doi:10.1510/icvts.2007.156273E

eComment: I would like to congratulate Dr. Jalal, not only for his effort to provide an objective method for semi-quantification of diffuseness of coronary atherosclerosis but also for bringing this very interesting subject up for discussion [1].

I would like to comment on the issue of mortality associated with the diffuseness of coronary artery disease. According to his unpublished data, operative mortality was no different among patients with various grades of severity of coronary artery disease based on his scoring system. I have no difficulty accepting this since he has excluded patients in whom endarterectomies, on-lay patch arterioplasties or multiple direct or sequential grafts to a single artery were performed. In other words, he has included patients that, regardless of the severity of disease, could be fully revascularized without the additional cross-clamp and bypass time (for the on-pump cases) that is required for more complex procedures and is well known to be associated with increased operative mortality. In this regard, however, the statement ‘diffuseness, if defined properly, has no role in operative mortality’ [2] is somewhat misleading. Apparently, overall severely diffused vessels, many of which require complex bypass techniques, influence unfavorably operative mortality. Therefore, the need for a preoperative evaluation method to grade severity of coronary artery disease reliably and objectively in a manner that allows us to incorporate this parameter in preoperative risk scoring system is still unfulfilled. Providing two otherwise similar patients, one with excellent bypass target vessels and the other with diffusely calcified ones most probably necessitating endarterectomy, with the same probability of operative mortality during informed consent is not right and we have all found ourselves in this awkward situation.

However, Dr. Jalal’s grading system which combines preoperative and intraoperative parameters is very welcome in our effort to evaluate objectively the role of disease severity on coronary surgery outcomes.

References


ICVTS on-line discussion F

Title: Objective grading system of CA diffuseness is still desirable
Authors: Leo A. Bockeris, Bakoulev Scientific Center, Rublevskoe Shosse 135, Moscow 121552, Russia; Ilia Berishvili
doi:10.1510/icvts.2007.156273F

eComment: Message: high risk patients now represent a substantial part of patients referred for coronary surgery. Preoperational severity of illness in patients undergoing coronary artery bypass grafting (CABG) surgery is a major determinant of clinical postoperative outcomes. Revascularization in patients with diffuse disease is well recognized as an important determinant of patient outcomes.

However, up to today all risk models do not fully account diffuseness (diffuseness score) as a risk factor. In the context of the above mentioned, this paper [1] seems very interesting.

However some questions arise: The term ‘diffuseness’ used in the work encompasses 3 notions:
- diffuse changes in coronary arteries
- distal disease (without distal runoff)
- and small coronaries

Such use of the term seems not quite eligible, as there are small coronary arteries without any diffuse lesions. Besides, the presence of small coronary arteries is absolutely typical for women. Also, the author does not take into account the degree of atherosclerotic lesion of the arterial wall of coronary vessels, and, in particular, the notion of coronary artery calcification.

Secondly, the proposed grading system based on the measurement of the size of the vessels by standard metallic probes of diameters ranging from 1 mm to 2 mm oversimplifies the real situation. Our experience shows that it compromises the possibilities of mathematical analysis and the feasibility of correlation analysis.

Thirdly, the author uses the pulsatility index as an evaluation factor. At the end of the discussion, the author notes that after successful completion of endarterectomy and revealed decreased perfusion in the pools of endarterectomized arteries in the majority of cases. Hence, it is evident, that pulsatility index, determined immediately after the operation, is hardly usable for prediction purposes.

We must conclude that the impact of diffuseness of coronary artery disease on the outcomes of CABG surgery remain unclear and it is still desirable to develop an objective system of grading the diffuseness of coronary vessels wall injury.

Reference