more regarding the differences between the surgically treated patients as opposed to the medically treated patients.

The current guidelines also indicate that the GRACE score should be used as a tool in making this decision, and I think this study shows that surgery does provide a better outcome for patients, particularly in the higher risk groups with a GRACE-predicted score of over 10%. And the current guidelines recommend reintervention for patients with a predicted mortality of over 3%. So we are addressing the patients with higher risk and showing that surgery may benefit these patients to a greater extent.

Dr. Vonk: So what you’re saying is that we should apply a slightly more aggressive conclusion on the GRACE score in an individual patient?

Dr Senanayake: Yes.

Dr K. Sarkar (Calcutta, India): Do you think in your Group 3 patients the incremental mortality could be addressed a little bit with techniques of myocardial protection? In other words, avoiding global ischaemia by considering on-pump beating heart or intra-aortic balloon-assisted off-pump? I mean, the imposition of global ischaemia in these category Group 3 patients, is it adding onto the risk factor?

Dr Senanayake: I agree with your comments. The first comment that I would make is that the Group 3 patients were a small number; we had only 15 patients in that group. So this is something that we could look into in the future to prospectively collect more data in these high-risk groups. The practice in our Trust and in our department is to perform all surgery on-pump, so this is data that I can’t comment on, but there might be a beneficial role for what you suggested.

Dr Sarkar: And I wasn’t really clear on your technique of cardioplegia. Was it antegrade, retrograde or was it just antegrade?

Dr Senanayake: All patients had antegrade cardioplegia, but the difference between surgeons is between warm and cold blood cardioplegia, but it is all antegrade on-pump.

Dr Sarkar: There was no retrograde used?

Dr Senanayake: No.

Dr G. Wimmer-Greinecker (Bad Bevensen, Germany): One question. You showed us that patients who had surgery up to 30 days after NSTEMI were included, and you said this was the index admission. So what was the reason for such a long hospital stay until they finally got their treatment?

Dr Senanayake: All patients were within the index admission. There was variability depending on what time the surgery was performed from the time they were admitted. It’s difficult to comment on whether this would have caused a difference in their outcome. But particularly, the difficulty that we have is performing these surgeries within a short amount of time due to the pressure within the department.

Dr Wimmer-Greinecker: So that’s a logistical issue?

Dr Senanayake: Yes.
comparison, in 2005, between risk scores in which 65.9% of patients with NSTEMI received either PCI or CABG showed that the GRACE score was the best risk score available [2]. In contrast, a recently published study showed that between 2005 and 2007 still only 40% of patients undergoing angiography for NSTEMI received PCI and 10% were treated with surgery [9]. The differences between the patients included in the GRACE study, described here and in the current study, can explain the extreme difference between the observed and expected mortality for the GRACE risk groups. This study suggests that the mere value of the GRACE score as an absolute risk percentage is influenced by the choice of treatment (medically, PCI or CABG). The study shows that the GRACE score is not reliable as an estimation of the absolute risk for patients with an indication for surgery. Then what does the GRACE score tell us? The presence of NSTEMI in general means that some form of revascularization may be indicated. We should not see the GRACE score as a predictive score for mortality in coronary surgery, but merely as a tool for diagnostic triage and then use other tools (i.e. guidelines [6] or the results from SYNTAX [7, 8]) to make the decision on therapy. If the GRACE score is used for decision making towards performing any kind of treatment this study stresses that this use is inappropriate. This study does show that surgery can be performed safely, especially in the middle GRACE score group. In summary, NSTEMI means that the patient could be at risk. The GRACE score can be of help in identifying which patients are particularly at risk and are in need of diagnosis (subsequently leading to treatment, preferably intervention). In NSTEMI patients with an indication for CABG, surgery can be performed safely. The use of the GRACE score for triage in the work-up reduces the risk.

REFERENCES