The application of global risk scores, to estimate long-term prognosis after myocardial infarction enables the effective tailoring of medical intervention to prevent coronary recurrences or deaths. The scores and tables were constructed from data of a low risk Mediterranean population. Therefore it would be necessary to evaluate them in the larger European population. The European Heart Survey Studies on acute coronary syndromes or secondary prevention offer an opportunity to verify the validity of global risk scores.

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References

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Angiography and revascularization after thrombolysis: where are we?

See page 2104, doi:10.1053/euhj.2001.2622 for the article to which this Editorial refers

Thrombolytic therapy is the most commonly used reperfusion strategy after acute myocardial infarction. It is still unclear whether coronary angiography after thrombolysis should be available routinely for all patients after thrombolysis or targeted to specific groups.

In this issue, Llevadot and colleagues present an analysis of practice patterns following thrombolysis for acute myocardial infarction using the InTime II dataset[41]. InTime II was a randomized trial of 15 078 patients enrolled from 855 hospitals comparing the effects of two thrombolytic agents, lanoteplase (nPA) and alteplast (tPA) on clinical outcomes. The results of InTime II showed that these two agents had very similar effects on mortality rates, but there was a suggestion that lanoteplase was associated with a higher rate of cerebral haemorrhage[42]. In the present analysis they compare rates of angiography and revascularization across three hospital groups: those with
cardiac catheterization facilities available 24 hours a day, those with the same facilities available during the day only, and those with no on-site catheterization facilities at all. Procedures were assigned to the admission hospital regardless of whether they were performed subsequently after inter-hospital transfer.

Pre-discharge angiography rates in the three groups were 57, 38 and 26%, respectively. The corresponding rates of percutaneous coronary intervention were 32, 17 and 15% and any revascularization (including coronary artery surgery) 37, 21 and 17%, respectively. Thirty-day all-cause mortality rates at centres with the same facilities available during the 24-hour, daytime-only and no catheterization facilities at all. Procedures were assigned to the admission hospital regardless of whether they were performed subsequently after inter-hospital transfer.

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care systems. Thus we need to implement more stringent criteria for determining who receives cardiac catheterization and their priority for this procedure irrespective of which hospital they present to. Finally we do not have the evidence base for supporting an approach for ‘routine’ cardiac catheterization and further randomized studies would be helpful including careful health economic evaluation of these resource intensive treatments.

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References


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Hormone replacement therapy in women with angina with normal coronary arteriograms. Pathogenetic or symptomatic therapy?

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Although the majority of patients undergoing cardiac catheterization for the investigation of chest pain are men, those in whom normal coronary arteries are most frequently found are predominantly women of whom most are post-menopausal[1–3]. This observation, coupled with the evidence that oestrogens are vasoactive substances, a deficiency of which is associated with vasomotor instability and decreased arterial flow velocity, has led to the suggestion that oestrogens may play a central role in the pathogenesis of chest pain in post-menopausal patients with angina with normal coronary arteriograms[3–5]. This hypothesis is also supported by the symptomatic benefit derived from oestrogen replacement therapy in post-menopausal women with the syndrome and by the finding that hyperaemic vasodilator reserve, found to be impaired in women with angina with normal coronary arteriograms, is normalized by oestrogen replacement therapy[3,6].

A significant 50% reduction in the frequency of episodes of chest pain in post-menopausal women with angina with normal coronary arteriograms when treated with oestrogen replacement therapy has been reported[6]. However, this beneficial effect upon chest pain is not coupled with any significant improvement in exercise time or changes in any of the variables assessed by either exercise testing or ambulatory ECG monitoring and suggestive of myocardial ischaemia. This indicates a dissociation between the beneficial effect upon symptoms and the results of cardiovascular assessment and shows that although angina with normal coronary arteriograms is likely to be heterogeneous with multiple pathogenetic components, the