

LETTERS TO THE EDITOR

Angioplasty in Total Coronary Occlusion. I

In their study of percutaneous transluminal coronary angioplasty in total occlusion, Kereiakes et al. (1) omitted a very important detail: Were other vessels that were partially occluded also treated with angioplasty?

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Reference

1. Kereiakes DJ, Selmon MR, McAuley BJ, McAuley DB, Sheehan DJ, Simpson JB. Angioplasty in total coronary artery occlusion: experience in 76 consecutive patients. *J Am Coll Cardiol* 1985;6:526-33

Reply

There was no systematic approach to associated vessel stenoses of patients in whom we attempted recanalization of a chronic total coronary occlusion. With the early experience of an increased incidence of abrupt thrombotic reclosure, we were somewhat hesitant to do multiple vessels at the same sitting as a total coronary occlusion. With modification of our protocol to include complete therapeutic anticoagulation overnight following successful recanalization of a total occlusion, we have also addressed associated lesions at the same sitting. I believe this should be done only after angiographic and hemodynamic assessment of results of the recanalization of the total occlusion. If a suboptimal result is achieved in the totally occluded vessel, then we believe it is most reasonable to stage the procedure and perform graded exercise tolerance testing with thallium myocardial scintigraphy in follow-up. This allows functional assessment of the adequacy of recanalization in the occluded vessel as well as assessment of functional capacity and symptomatology.

If an optimal result is obtained in the totally occluded vessel, we believe it reasonable to proceed in attempting angioplasty of associated vessel stenosis in a routine fashion. The majority of patients in whom we recanalized a total occlusion in the series reported did not have angioplasty of associated coronary stenoses. Although our study was not designed to evaluate the effects of partial revascularization, it would appear that our population did well symptomatically in long-term follow-up with partial revascularization.

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Angioplasty in Total Coronary Occlusion. II

Kereiakes et al. described the feasibility and efficacy of percutaneous transluminal angioplasty in a large patient group. Improvement in clinical status (decreased severity of angina pectoris) suggests that the myocardium in the territory of the totally occluded artery is partially viable. In this regard, left ventricular wall motion studies obtained during cardiac catheterization would be of great practical significance, but these findings were missing in the report. Was clinical improvement limited to those in whom regional left ventricular function was normal or only slightly impaired in the territory of the occluded artery? If so, the presence of normal or near-normal regional myocardial function might be an indication for the use of angioplasty or other forms of revascularization. Thus this finding might identify a subgroup of patients with total coronary artery occlusion in whom such an intervention has a reasonable chance of being useful. In other words, it might save unnecessary and potentially harmful procedures and make angioplasty a more cost-effective method of treating patients with chronic coronary artery disease.

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Reply

We can make no constructive comment with regard to global or regional left ventricular function, as these evaluations were not included in the original hypothesis of this study. These data are of significant interest to all involved in coronary angioplasty and we are at present attempting to do such evaluations in prospective patients. At the present time, we have obtained exercise radionuclide ventriculograms before and after angioplasty of a chronic total occlusion in too few patients to make any reasonable statement.

We have done many more stress tests with thallium myocardial scintigraphy before and after successful angioplasty and have found normalization of reversible thallium defects after successful recanalization in the majority of patients. I am particularly interested in knowing whether there would be some delayed return in mechanical function or "stunning" effect due to chronic low grade ischemia in these myocardial segments. We can only assume the appropriate timing of such functional evaluations at this point.

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