Inverse Relationship Between Volume and Outcome in Coronary Angioplasty: What Are the Implications for Clinical Practice?

To the Editor:

The paper by Vakili et al seems to have completed the picture; outcome of percutaneous transluminal coronary angioplasty (PTCA) is inversely related to both the operator and institution caseload, not only in the elective setting, but also in the emergency primary treatment of acute myocardial infarction (AMI). So, should all patients be referred to high-volume centers to have PTCA performed? Should they be treated at these centers by the operator(s) with the highest caseload? Should low-volume institutions be asked to conform to the recommended standards, or conversely to quit their interventional programs? Answers are all but obvious because scientific evidence hardly seems applicable to clinical practice. Referral to busy high-volume centers would in fact unacceptably extend the waiting lists, and performance of all PTCA by the “best” operator would require he or she to be uninterruptedly on duty. It must therefore be accepted that physicians, like anyone else operating in any human activity, are different and have different skills from one another. What should be assured is a minimum standard of adequate care, regardless of the physician and institution providing it, with periodical monitoring and independent review of operator and institution indicators (such as procedural volume, but also incidence of complications and processes of care) serving to define this standard and to control its fulfillment over time. Performance above the minimum should be regarded as an extra value. Similarly, the minimum standard of adequate care should be used to decide the fate of low-volume institutions, rather than just the number of procedures. Because it is still unclear whether the outcome of AMI is better with immediate thrombolysis or primary PTCA by low-volume operators or delayed primary PTCA by high-volume operators, caregivers with low caseloads may still be accepted, especially in underserved areas, proven that the minimum level of appropriate care is provided. Either optimization or cessation of interventional programs should be considered for low-volume hospitals serving urban areas, especially when high-volume centers are in the vicinity.

Operators and institutions should concentrate on reaching and maintaining an adequate minimum level of performance in both elective and emergency PTCA, whereas it should be a task of health care administrators to try to reconcile the yet unsolved issue of the regionalization of PTCA procedures (providing a higher quality of care) with that of the proliferation of the catheterization laboratories (allowing a more rapid access to medical care).

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