

Exercise-Induced Mitral Regurgitation and Antibiotic Prophylaxis Against Infective Endocarditis in Mitral Valve Prolapse

I read with great interest the results of the study by Stoddard et al. (1) dealing with exercise-induced mitral regurgitation as a predictor of morbid events in patients with mitral valve prolapse. Their observation raises the important question of which patients with mitral valve prolapse should receive antibiotic prophylaxis against infective endocarditis.

According to the American Heart Association guidelines (2), only those patients with mitral valve prolapse and valvular regurgitation need antibiotic prophylaxis against infective endocarditis. But how do we define mitral valvular regurgitation? Patients with mitral valve prolapse may not have mitral regurgitation at rest but develop it after exercise; exercise-induced mitral regurgitation occurred in as many as 33% of the patients studied by Stoddard et al (1). Many a patient at rest may exhibit a murmur due to mitral regurgitation on one occasion but not on another (3). Mitral regurgitation considerably increases the risk of infective endocarditis (4,5). Infective endocarditis complicating mitral valve prolapse causes considerable cumulative morbidity and incremental health care costs (6), but antibiotic prophylaxis against infective endocarditis is highly cost-effective (7). Therefore, should not all patients with mitral valve prolapse receive antibiotic prophylaxis whether or not mitral regurgitation is evident on routine physical examination?

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References

1. Stoddard MF, Prince CR, Dillon S, Longaker RA, Morris GT, Liddell NE. Exercise-induced mitral regurgitation is a predictor of morbid events in subjects with mitral valve prolapse. *J Am Coll Cardiol* 1995;25:693-9.
2. Dajani AS, Bisno AL, Chung KJ, et al. Prevention of bacterial endocarditis. A statement for health professionals from the Committee on Rheumatic Fever, Endocarditis, and Kawasaki Disease of the Council on Cardiovascular Disease in the Young, the American Heart Association. *Circulation* 1991;83:1174-8.
3. Barlow JB, Cheng TO. Mitral valve billowing and prolapse. In: Cheng TO, (editor). *The International Textbook of Cardiology*. New York: Pergamon Press, 1987:497-524.
4. Hickey AJ, MacMahon SW, Wilcken DEL. Mitral valve prolapse and bacterial endocarditis: when is antibiotic prophylaxis necessary? *Am Heart J* 1985;109:431-5.
5. MacMahon SW, Roberts JK, Kramer-Fox R, Zucker DM, Roberts RB, Devereux RB. Mitral valve prolapse and infective endocarditis. *Am Heart J* 1987;113:1291-8.
6. Fray CJ, Devereux RB, Kramer-Fox R, Roberts RB, Ruchlin HS. Clinical and health care cost consequences of infective endocarditis in mitral valve prolapse. *Am J Cardiol* 1994;73:263-7.
7. Gould IM, Buckingham JK. Cost effectiveness of prophylaxis in dental practice to prevent infective endocarditis. *Br Heart J* 1993;70:79-83.

Reply

We appreciate the very interesting question raised by Cheng concerning the potential need for antibiotic prophylaxis in all patients with documented mitral valve prolapse, given that mitral regurgitation in this condition may be transient and provoked by exercise (1). Although we cannot advocate the routine use of antibiotic prophylaxis in patients with mitral valve prolapse and no regurgitation during rest, we have adopted this approach in the management of our patients with mitral valve prolapse. This approach is controversial, but we believe that it is

supported by knowledge of the dynamic nature of mitral regurgitation in patients with mitral valve prolapse. However, it is possible that only patients with mitral valve prolapse with persistent compared with transient mitral regurgitation are at higher risk for endocarditis. The ultimate decision to use antibiotic prophylaxis in patients with mitral valve prolapse and no mitral regurgitation at rest must be made on an individual basis. Factors such as the nature of the invasive procedure, previous history of endocarditis and mitral valve redundancy may weigh heavily in the final decision to use or not to use antibiotic prophylaxis. Data from randomized clinical trials are lacking and are needed before definitive conclusions addressing the issue raised by Cheng can be reached.

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Reference

1. Stoddard MF, Prince CR, Dillon S, Longaker RA, Morris GT, Liddell NE. Exercise-induced mitral regurgitation is a predictor of morbid events in subjects with mitral valve prolapse. *J Am Coll Cardiol* 1995;25:693-9.

International Comparisons of Waiting Times for Cardiovascular Procedures*

As a Canadian clinical cardiologist, I read with interest the article by Carroll et al. (1) and the editorial comment by Ryan (2). I believe that the waiting times provided for Canadian catheterization laboratories and bypass surgery facilities are probably correct, and I agree that these waiting times are longer than they should be. My concern with the article, however, is whether it appropriately demonstrates the difference in access to cardiac care. Access is more than a matter of waiting time for operation, it is also a matter of whether one is considered worthy of being placed on the waiting list at all.

In Canada, every patient who is considered a candidate for angiography is placed on the waiting list for angiography and subsequently on the waiting list for bypass surgery. Whether the individual patient can afford to pay for bypass surgery is not a concern in Canada. My question is, How many patients who fit the profiles in the report by Carroll et al. do not get on the waiting list because they have no insurance and cannot afford to pay for angiography or bypass surgery. I believe that it is better to have everyone wait somewhat longer rather than to provide a shorter waiting time for one group at the expense of no angiography or bypass surgery in the group with no money.

I would be interested in a report that canvassed cardiologists and primary care physicians, especially in some of the more economically disadvantaged regions, to determine how many U.S. patients do not make it onto the lists. Carroll et al. do quote an American Medical Association poll showing that the majority of Americans would prefer to spend more on health care and receive it quickly than wait longer for lower cost care. My question is, What about the Americans who cannot

* The opinions expressed in this letter are those of the author and do not necessarily reflect those of the Department of National Defence, Canada.