Letters to the Editor

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Dose of amiodarone in atrial fibrillation — neither guidelines nor clinical practice reflect available evidence

The recently published ACC/AHA/ESC practice guidelines[1] for the management of atrial fibrillation support the use of amiodarone for the maintenance of sinus rhythm, but fail to specify a maintenance dose, referring instead to a range of 100–400 mg daily. In fact, there is no evidence for the use of amiodarone 100 mg daily, either in terms of efficacy or reduced toxicity. Nevertheless, we believe that use of such 'very low dose' amiodarone, certainly in Europe, is widespread. We recently conducted a survey of U.K. cardiologists, the results of which support this view.

Forty-five cardiologists, including 11 cardiac electrophysiologists, were surveyed via a postal questionnaire. They were asked about (1) The dose of amiodarone used for paroxysmal atrial fibrillation and for the maintenance of sinus rhythm after cardioversion of atrial fibrillation. (2) Their opinion regarding the evidence for amiodarone in a dose of 100 mg daily, with respect to both efficacy and toxicity.

Amiodarone 200 mg daily was the standard dose used for prevention of atrial fibrillation by 90% of those surveyed. However, all cardiologists questioned use 100 mg daily either 'often' (24%) or 'sometimes' (76%), and 71% 'would aim to use 100 mg daily if possible'. Despite this, most (71%) accepted that there is 'very little' or 'no' evidence for the efficacy of 100 mg daily in atrial fibrillaton. With regards to side-effects, 89% believed that toxicity was reduced with 100 mg daily compared to 200 mg daily, although the majority (69%) agreed that the evidence for reduced toxicity is 'very little' or 'none'. There was no significant difference in the practice of electrophysiologists and other cardiologists.

Amiodarone is an effective and widely used treatment for prevention of atrial fibrillation. It is the most commonly prescribed antiarrhythmic drug in both Europe and North America[2]. However, doubt exists over the optimum dose, as reflected in the ACC/AHA/ESC practice guidelines. Our findings indicate that the use of amiodarone 100 mg daily is almost universal amongst U.K. cardiologists, despite acceptance that evidence to support either efficacy or reduced toxicity at this dose does not exist. In the era of evidence-based medicine this is anomalous, and highlights a requirement for randomized controlled trials to evaluate the efficacy and safety of very low-dose amiodarone in atrial fibrillation.

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Echocardiography performed by physicians outside of echo-labs — Is it possible?

The recent appearance of portable echocardiography has raised questions about its potential application. Who will perform the studies? Are the studies reliable? Which subgroup of patients will benefit from such an examination? There is no doubt that echocardiography widens the conventional clinical examination, with recent advances in portability making it possible to perform an echocardiogram at the bedside or outpatient clinical setting. There are, however, many cardiologists who believe that an echo performed by non-experts, i.e. non-cardiologists, outside of the echo-lab could lead to both clinical as well as reimbursement problems.

Specialized echo-labs frequently perform simple and completely normal echocardiograms daily. The volume of demand in these labs creates long patient wait-times and consequent delays in reports to requesting physicians. At the clinical cardiology echo-lab of the University of Madrid, for example, we performed 13 678 echocardiograms during the year 2000.Interestingly, 1754 (12·8%) of these studies were found to be completely normal. Would it not be better to perform a screening echo in subgroups of patients with an a priori low probability of cardiac disease, and then refer only those with either clear-cut cardiac disease or with inconclusive findings for a more formal study? If the physician, for example, could perform an echo to quickly assess the quality of systolic function or determine the presence of left ventricular hypertrophy, then both the patient and the physician would surely benefit by avoiding a potentially unnecessary and/or delayed visit to the echo-lab.

To explore this question, we trained a general practitioner for 1 year to perform echocardiography, specifically, to measure chamber size and ejection fraction, to analyse wall motion, and to identify pericardial effusion and valvular dysfunction. We then prospectively studied 200 consecutive patients from the internal medicine outpatient clinic by both the trained GP and an expert echocardiographer. Criteria for study inclusion consisted of the following evaluations: left ventricular function (n=106), hypertension (n=17), non-ischemic electrocardiographic abnormalities (n=30), and cardiac murmur (n=17).

The trained general practitioner used a hand-held portable machine (OptiGo, Agilent Technologies) and the expert echocardiographer used a sophisticated machine (Sonos 5500, Agilent Technologies). Two echocardiograms were performed in a blinded fashion on each patient. Out of the 200 patients, 44 were considered completely normal by both examiners. There was no single study considered normal by the GP that was considered abnormal by the expert. In 99 patients, left ventricular hypertrophy was found by both examiners. In 18 patients, left ventricular function was found to be abnormal by both examiners. Left

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