Letters to the Editor

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The Belgian Improvement Study in Oral Anticoagulant Therapy: a randomized clinical trial

We read with great interest the article by Claes et al. about The Belgian Improvement Study on Oral Anticoagulant Therapy. The randomized clinical trial compares different interventional models to improve the quality of oral anticoagulant therapy in general practitioners’ (GP’s) practice who mainly manage the control of anticoagulation.1 In Hungary, arterial and venous vessel diseases have a great impact on morbidity and mortality data, so the quality of oral anticoagulation is essential.

Last year, we published a retrospective survey2 on the use of an oral anticoagulant, acenocoumarol, by specialists, mainly in outpatient departments (cardiology or general internal medicine) or GP’s. We collected and analysed the data of 488 patients treated with this agent. The patients’ mean age was 64.2 ± 11.4 years. Most of them were treated for atrial fibrillation (42.8%) and venous thrombo-embolic events (29.7%). The mean value of all last three INR values. Patients were considered properly treated if their INR values were found to be between 2.5 and 3.5. In half of the patients, we detected INR values within the required range at least in two out of the three control lab tests. According to the guidelines on oral anticoagulation, >50% of results of the anticoagulation control should not deviate more than 0.5 INR unit from the target one.3 In our survey, 20% of the patients had their INR values outside the therapeutic limits. Forty per cent of these values were under 2.2 and 20% above 4.5, the latter group showing an increased risk for bleeding events. Data in the literature indicate that the risk of serious bleeding complications with acenocoumarol is 0.5-4.2%. In the Italian Study on Complication of Oral Anticoagulant Therapy, the frequency of serious bleeding events was found to be 1.1%.4 We had no patients with serious bleeding event and only 3.6% had a mild bleeding episode. Patients >70 years (n = 195) had similar results to the average in therapeutic accuracy and in the safety data. At present, home self-control is not available in general practice, but we plan to introduce this method in the permanent anticoagulant therapy of selected patients. It is very important to emphasize the pivotal role of educating permanent patients. The paper of Claes et al. presents useful advice for improving the quality of anticoagulation performance.

References

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What is the most useful and cost-effective strategy to screen for left ventricular systolic dysfunction in clinical practice?

With interest we read the article “What is the most cost-effective strategy to screen for left ventricular (LV) systolic dysfunction: natriuretic peptides, the electrocardiogram, hand-held echocardiography, traditional echocardiography, or their combination?” by Galasko et al.1 However, we do not agree with the conclusion that the electrocardiogram (ECG), the N-terminal pro-brain natriuretic peptide (NTproBNP), and hand-held echocardiography (HE) can be used cost-effectively for screening and that the most cost-effective approach involves pre-screening with NTproBNP or ECG prior to HE prior to formal traditional echocardiography (TE).

Both the ECG and the NTproBNP are important and fundamental tests used for the diagnosis of heart failure. However, as their characteristics differ from the echocardiogram, they cannot necessarily be used as substitutes for the echocardiogram. As for screening tests, high sensitivity is required at the expense of specificity. In the high-risk group in this study, the sensitivity of ECG declined to 90% and that of NTproBNP to 76%. Given the high prevalence, the sample size is large and the sensitivity of the high-risk group would reflect the real value. Moreover, when a two-step screening strategy (ECG or NTproBNP combined with HE) is used, the sensitivity further decreases. Although a cost saving is achieved, the number of false-negative results increases, which cannot be disregarded in the high-risk group because of the negative consequences associated with a missed diagnosis.

In contrast, the sensitivity of HE remained at 97% even in the high-risk group. This implies that even HE is a useful screening test for LV systolic dysfunction, as more true-positive patients would be identified than with the two-step screening strategy.

Finally, the authors’ sensitivity analysis used an increased cost for HE, from 37.5 € to 50 €. If, on the other hand, the cost for HE decreased a little from 37.5 € to 30 €, then the cost-effectiveness of HE alone prior to TE would be more cost-effective than ECG prior to HE prior to TE. Thus, HE alone strategy would be the most useful and cost-effective and identify more true-positive patients in clinical practice than the two-step screening strategy proposed.

References
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Incidence of recognized and unrecognized myocardial infarction in men and women aged 55 and older: the Rotterdam Study

The Rotterdam Study might well be a ‘wake-up call’ for those authors of management guidelines for myocardial infarction (MI), who do not sufficiently stress the potential for saving lives if the non-chest pain presentations of MI are promptly recognized and evaluated for eligibility for thrombolysis and other therapeutic strategies. Our National Service Framework (NSF) for coronary heart disease recognizes that many patients initially thought to have MI may have other causes for their chest pain. Nevertheless, it does not stress that, as a corollary, MI might have a pain-free presentation characterized, instead, by sudden onset of unexplained dyspnoea and by unexplained collapse. These alternative clinical stigmata of MI are well described in the elderly, and might well have been a feature of many of the patients in the Rotterdam Study. The other major shortcoming of our NSF emerges in the outline of models of care to be used in hospital-wide protocols, and here the advice on the assessment of eligibility for thrombolysis deals with management of those MI patients who present with chest pain without referring to the potential benefits of thrombolysis in those who do not have chest pain. Nowhere is there a recognition that a pain-free MI patient who presents to the hospital promptly with sudden onset dyspnoea or collapse might well be within the therapeutic time window for thrombolysis if the electrocardiographic criteria for such treatment are met.

References


What is the most useful and cost-effective strategy to screen for left ventricular systolic dysfunction in clinical practice?: reply

We agree with many of the comments made by Yamada et al., namely that the ECG and NTproBNP are fundamental tests used in the diagnosis of heart failure and that as tests become cheaper they become more cost-effective. We further agree that our data show that hand-held echocardiography gives the greatest sensitivity, ECGs give intermediate sensitivity, and NTproBNP normal range cuts off the worst sensitivity in detecting left ventricular systolic dysfunction (LVSD). We also agree that as screening sensitivity falls, some subjects with the screened-for condition will fail to have it diagnosed. Although we clearly stated that the screening programmes described would miss cases of LVSD, we did not make it clear that this was a function of screening sensitivity, an important point that we are pleased Yamada et al. have emphasized. Thus, NTproBNP-driven screening would leave more subjects with LVSD undiagnosed than ECG- or hand-held echocardiography-driven screening. However, as ECG-driven screening has much lower specificity (thus higher false positive rates) and hand-held echocardiography costs more than NTproBNP per test, our conclusion that NTproBNP or ECG screening prior to hand-held echocardiography prior to traditional echocardiography is the most cost-effective strategy, at both current test costs and future likely test costs, remains correct. Furthermore, despite its lower sensitivity, NTproBNP-driven screening might be justifiable in practice, as subjects with normal NTproBNP levels have extremely low cardiac morbidity and mortality whatever their left ventricular function, although long-term follow-up of our subjects would be required to confirm this. Finally, we agree that if the price of hand-held echocardiography approached that of the ECG, hand-held echocardiography would clearly become the screening method of choice. However, whether this would ever happen is unclear, and furthermore were this to happen then whether enough fully trained sonographers would be available to accurately screen for LVSD using this technology is also unclear, a major potential future issue.

References

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