Impact of symptom control on health-related quality of life in atrial fibrillation patients: the psychologist’s viewpoint

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Received 18 February 2010; accepted after revision 26 February 2010; online publish-ahead-of-print 30 March 2010

This editorial refers to ‘Impact of the control of symptomatic paroxysmal atrial fibrillation on health-related quality of life’ by L. Guédon-Moreau et al., on page 634.

Atrial fibrillation (AF) can be a highly symptomatic arrhythmia, with patients reporting palpitations, dizziness, breathlessness, exercise intolerance, and fatigue. Thus, it is unsurprising that AF patients report a reduction in their quality of life (QoL) when compared with the age- and sex-matched general population in sinus rhythm. Given that AF is a chronic condition that places patients at increased risk of mortality and morbidity, and often requires life-long treatment, including long-term oral anticoagulation, QoL is, therefore, an important treatment outcome when measuring patients’ physical, emotional, and social functioning, as well as their perceived health.

As reviewed by Thrall et al., many previous studies have shown that AF patients have poorer QoL when compared with age-comparable healthy controls and the general population, particularly general health, vitality, physical, social, and emotional role functions; however, QoL does improve with symptom alleviation. Thus, should we aggressively pursue the goal of symptom alleviation when managing AF patients?

Guendon-Moreau et al. examined the impact of flecainide acetate-controlled release (flecainide CR), an antiarrhythmic drug, on the QoL of controlled [defined as ≤1 symptomatic paroxysmal AF (PAF) episode within 6 months] and uncontrolled [defined as ≥2 symptomatic PAF episodes within 6 months] PAF patients. Patients were treated with flecainide CR over a 48-week period and followed up 12, 24, and 48 weeks later. QoL was assessed at each of these time-points using the short-form health survey-36 items (SF-36). At baseline, patients with controlled PAF had significantly better mental health (P = 0.029), vitality (P = 0.001), and general health (P = 0.01) component scores than the uncontrolled group. When compared with a healthy control reference group, the uncontrolled PAF group had significantly poorer QoL in six out of eight subscales, particularly significant were domains forming the mental component scale (P = 0.0001), i.e. mental health (P = 0.0003) and vitality (P = 0.0001). The controlled PAF group had poorer QoL in two out of eight domains, specifically within the physical component scale (P = 0.0346) including physical functioning (P = 0.0378) and bodily pain (P = 0.0251). Differences at follow-up indicated a greater improvement in QoL for uncontrolled PAF patients and maintenance of QoL scores for the controlled group, when compared with a healthy-matched control study group, particularly at 6 month follow-up. At the 3-month follow-up, the differences between groups were significant only for general health (P = 0.03). However, at 6 months, there were significant differences for general health (P = 0.002), vitality (P = 0.004), and emotional role (P = 0.02) and both the mental (P = 0.04) and physical (P = 0.03) component scales, between the groups, with the uncontrolled PAF patients demonstrating the greatest improvement in QoL. The only significant difference between the groups in QoL at 12 months compared with baseline was for general health (P = 0.003).

These findings support the premise that the predictability of a patients’ ventricular rate is an important determinant of QoL among AF patients. Of the five randomized controlled trials that compared pharmacological rate control vs. rhythm control, four reported QoL as an outcome. All four trials demonstrated improvements in QoL following intervention, three reported greater improvements in patients assigned to rate control strategies, and the AFFIRM trial demonstrated similar improvements for both rate and rhythm control treatments. One systematic review evaluated the effects of various rhythm control strategies (e.g. maze operation, pulmonary vein isolation, and catheter ablation of atrial foci), all of which significantly improved QoL post-intervention. Physical QoL outcomes were more frequently improved, specifically domains such as general health, physical functioning, physical role, and bodily pain. However, significant

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improvements in psychological domains such as mental health and social functioning were also reported.5

Patients undergoing invasive procedures are often highly symptomatic and almost certainly the relief of AF-associated symptoms alone leads to significant improvements in QoL following these interventions. Symptomatic relief may affect the patient in numerous ways. First, some suggest that treatment may have a placebo effect whereby patients report fewer symptoms because they believe their treatment is successful.12 Second, perhaps simply being informed that their heart rate is beating in a ‘normal’ rhythm may reduce patient anxiety and increase psychological well-being. Indeed, one study13 compared QoL in patients undergoing radiofrequency isolation of the pulmonary vein or pharmacological rhythm control. At baseline, both groups were clinically comparable and both physical and mental functioning scores showed similar changes over time. However, a significant time trend (P = 0.007) was found only in ablated patients (P = 0.004), where QoL levels at 6 months were similar to those of healthymatched controls, with no further improvements at 12 months. For both patient groups, the maintenance of sinus rhythm was associated with a reduced risk of death [ablation: hazard ratio (HR), 0.66, 95% confidence interval (CI), 0.09–0.48; pharmacological: 0.46 (0.12–0.32)] and adverse event rates [ablation: 0.61 (0.16–0.68); pharmacological: 0.45 (0.08 to 0.21)].13 Therefore, while QoL outcomes could be attributed to many factors including placebo or expectancy effects of an invasive procedure, it is likely that the improvement in QoL was again related to a reduction in AF burden. Indeed, a later study comparing pulmonary vein isolation with an antiarrhythmic drugs also found significantly higher QoL at 6-month follow-up in patients who had pulmonary vein isolation, the most significant QoL outcomes were improvements in general health, physical functioning, bodily pain, and social functioning.14 Further, the patients who underwent pulmonary vein isolation had significantly fewer AF episodes and fewer hospitalizations than those patients taking the antiarrhythmic drug.14 Thus by reducing the AF burden, the QoL of AF patients improves.

If control of the ventricular rate improves QoL, patients with PAF, particularly symptomatic paroxysms, are likely to report lower QoL when compared with patients with permanent or persistent AF. PAF patients experience intermittent periods of AF, normally lasting <7 days, interspersed with episodes of normal sinus rhythm.15 PAF comprises 25–62% of AF cases seen by physicians and GPs.16,17 and the prevalence of PAF varies due to differences in how health care professionals define types of AF. When compared with patients with permanent sustained AF, PAF patients tend to be younger, have less hypertension and congestive heart disease, and are more symptomatic.18 However, as symptoms are often frequent, unpredictable and hard to document, the subsequent clinical course is not as clear as that of persistent AF patients who may have relatively more ‘stable’ heart rates and fewer treatment options. Hence, QoL is often poorer among PAF patients5 due in part to the uncertainty of their AF prognosis and treatment options and outcomes.

A further consideration is the difficulty in objectively monitoring AF burden where the occurrence of symptomatic paroxysms is infrequent. Many studies record episodes of PAF subjectively, i.e. patient self-report (symptomatic episodes). In their study, Guedon-Moreau et al. distinguish between the controlled (≥1 symptomatic episode) and uncontrolled PAF (≥2 symptomatic episodes) groups by the number of PAF episodes reported by the patient. However, patients may experience episodes of PAF that are undetected. Therefore, self-reported episodes may not be truly representative of AF burden. For example, in one study, asymptomatic PAF occurred 12 times more commonly than symptomatic PAF when followed up longitudinally through Holter monitoring.19 Even asymptomatic episodes may impact upon the patients QoL, i.e., perhaps increasing anxiety levels or reducing exercise tolerance, and there is not enough evidence on the burden of these asymptomatic episodes to assume that they do not have an impact on patient QoL. Furthermore, patients in the uncontrolled PAF group were more likely to have newer onset PAF than the controlled group (>50% of patients were diagnosed as new onset in the last 6 months, compared with 6% in the controlled group). Therefore, differences in QoL may reflect other factors surrounding patients’ adaptation to a newly diagnosed condition and the amount of time taken for patients’ treatment plans to reduce symptom affect.

Finally, thromboprophylaxis is central to management of AF, whether paroxysmal, persistent, or permanent.20,21 Oral anticoagulation therapy is not usually associated with a significant decrease in perceived health, unless a bleeding episode has occurred.22 Thus, the negative effects of oral anticoagulation therapy on health perceptions may be balanced by confidence in its protective effects against stroke. Clearly, symptom control is a key factor when determining QoL in AF patients. Indeed, symptom control has ‘driven’ current management strategies for AF. However, it is important to note that patients self-reported QoL benefits from treatment, regardless of a rate or rhythm strategy. It is also difficult to distinguish between the psychological ‘placebo’ effects of treatment and the benefits of symptom control where research relies on subjective measures. More evidence is clearly needed, examining the relationship between (objectively monitored) incidence of PAF and QoL.

Conflict of interest: G.Y.H.L. has served as a consultant for Bayer, Astellas, Merck, Astra-Zeneca, Sanofi-Aventis, Aryx, Portola, Biotronic, and Boehringer and has been on the speakers bureau for Bayer, Boehringer and Sanofi-Aventis. D.A.L. is in receipt of an investigator-initiated educational grant from Bayer Healthcare. D.S. has no conflict of interest to declare.

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