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Letter to the Editor

The enigma of quality of life in patients with heart failure

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Abstract

Current treatment goals in heart failure (HF) aim to improve both survival and quality of life (QoL) of patients. In this brief communication, we reviewed randomized controlled trials that assessed the impact of pharmacological treatment on QoL, and we discussed some methodological limitations of QoL assessment in HF. Studies that assessed QoL with a disease-specific questionnaire were included. We found that at present there is a paradox in HF treatment. Life prolonging therapies, such as angiotensin-converting-enzyme-inhibitors, and angiotensin receptor blockers improve modestly or only delay the progressive worsening of QoL in HF. Treatment with beta blockers does not affect QoL in any way. However, this neutral effect of beta blockers may also be due to some methodological limitations, such as the small number of patients included in beta blocker trials or the short duration of follow-up. Disease-specific questionnaires may also have some limitations, e.g. are not sensitive enough to detect small changes in QoL. On the other hand, therapies that significantly improve QoL in HF (e.g. inotropic agents) do not seem beneficial in relation to survival. We conclude that QoL in HF remains an open field, in which new therapies but also clarification of methodology is required. In the mean time, the use of life prolonging therapies appears as a safe measure to modestly improve or maintain QoL.

Keywords: Quality of life; Heart failure; Drug therapy

Quality of life (QoL) is a complex concept that encompasses physical, psychological and social domains of health [1]. QoL is a "personal perception", denoting the way individual patients feel about their health status. Patients with heart failure (HF) experience severe impairment in all domains of QoL [2]. Thus, improvement of patients' QoL has become of prime importance in achieving treatment goals [3]. However, at present, confusion exists with regard to the best measure of assessing QoL in HF, and clinical trials incorporate measures from simple New York Heart Association (NYHA) class, exercise tolerance, symptom questionnaires, or the complex QoL questionnaires. Nevertheless, QoL questionnaires, especially disease-specific are considered the measurement of election, as they focus on all domains relevant for QoL. Currently, two disease-specific QoL questionnaires are used most often in HF, the Minnesota Living with Heart Failure questionnaire (MLHF) [3], and the Quality of Life with Heart Failure questionnaire (QLHF) [4].

However, findings on QoL (as assessed by these questionnaires) with different classes of medication yielded controversial results. Modest benefits in QoL at ≤ 1 year follow-up were reported with the angiotensin-converting-enzyme-inhibitor (ACEI) enalapril (on top of diuretics/digitalis) in symptomatic HF patients, but not in asymptomatic patients with left ventricular systolic dysfunction in the SOLVD study [5]. In contrast, no significant difference in physical activity, psychological distress or life satisfaction was reported with enalapril in the CONSENSUS trial [6].

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In Val-HeFT trial, the results are more promising. Overall, when added on top of various background therapies, the angiotensin receptor blocker (ARB) Valsartan slows the progressive worsening of QoL. Moreover, when added on top of an ACEI, Valsartan significantly improves QoL [7]. However, it is of notice that despite large sample size (3000 patients) a significant difference in QoL between Valsartan and placebo becomes evident after 20 months of follow-up. So, what can we conclude from these results? Certainly the study gives hope that medication that improves survival and morbidity in HF has also a positive effect on QoL. However, if judged critically, the effect on QoL becomes evident in long term follow-up, which for many patients with HF may be too late.

Prescription of a β-blocker on top of an ACEI has not shown a significant improvement in QoL (as assessed mostly by MLHF), although most trials reported a trend for a better QoL in patients receiving a β-blocker [8]. So why would a β-blocker not improve significantly QoL when added on top of ACEI/diuretics/digitalis, while its benefits on mortality and morbidity are now clearly established? Some may argue that β-blockers have more side effects than ARBs, especially during the initiation of therapy [9]. Others have blamed the MLHF questionnaire, as not being sensitive enough to capture small changes in QoL [10]. However, more methodological issues are to be discussed when interpreting these results. First, the Val-HeFT trial included more than 3000 patients, while the largest β-blocker trial (MERIT-HF) included only 741 patients in the QoL sample [11]. When we added up all the patients included in the QoL samples of β-blocker trials, we reached approximately 2000 patients, still much less than the number included in the single Val-HeFT trial [8]. It could be therefore that the β-blocker trials did not have enough power to detect a significant effect on QoL. The second important difference is the follow-up of the patients. In Val-HeFT, patients have been followed-up for an average of 23 months, while in the β-blocker trials patients have been followed up for an average of 3 months, 6 months, 12 months (MERIT HF) or a max of 18 months (MDC trial) [12] .

Other classes of medication, such as inotropic agents (Vesnarinone in high dose) on top of ACEI/digoxin/diretics have shown to improve significantly QoL in short term (2 months), however at the risk of increased mortality [13]. While some patients with HF would be willing to accept therapies that improve their QoL even at the risk of shortening life, this is a very controversial topic [14]. Nevertheless it should be acknowledged that prognosis is not the major concern in very elderly, those with refractory symptoms for whom transplantation is not an option, or in individuals with terminal malignancy.

Device therapy on top of standard medication has shown to improve both prognosis and QoL in advanced HF, but its indication remains limited to a certain segment of patients with HF [15]. Finally, some disease management programs have shown also a significant improvement on QoL, but others presented neutral results [16].

HF is a progressive disease, and QoL deteriorates gradually after the diagnosis [17]. In this context, it is hard to have clear expectations with respect to the impact of medication on QoL. Given the course of the disease, slowing of progressive worsening of QoL or a modest improvement in QoL may be the ideal. On the other hand, patients expect a timely and clear improvement in their QoL. The aim of pharmacological treatment is in fact to improve QoL, although QoL is not a full criterion to evaluate the effects of medication.

Improvement of QoL in HF remains therefore an open field, in which new therapies but also clarification of methodology is required. In the mean time, the use of life prolonging therapies appears as a safe measure to modestly improve or maintain QoL.

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