Quality of life in patients with atrial fibrillation: a systematic review

Thrall G, Lane D, Carroll D, Lip G Y

CRD summary
This review concluded that quality of life in patients with atrial fibrillation can be significantly improved by both rate and rhythm control strategies. The generalisability of many of the included studies is uncertain but, overall, the authors' conclusions are in line with the evidence presented and appear reliable.

Authors' objectives
To assess the effects of rate control and rhythm control interventions on quality of life (QoL) in patients with atrial fibrillation (AF). The review also compared the QoL of patients with AF with that of healthy controls, the general population and patients with other cardiac diseases. This aspect of the review is not covered in this abstract.

Searching
MEDLINE, EMBASE, PsycINFO and CINAHL were searched from inception to 31 January 2005; the search terms were reported. No language restrictions were applied. Abstracts from national and international cardiology and psychology conferences in 2003 and 2004, and from UMI ProQuest Digital Dissertations, were searched for unpublished studies. The reference lists of articles identified from the electronic database searches were also checked.

Study selection
Study designs of evaluations included in the review
No inclusion criteria for the study design were specified. Randomised and non-randomised controlled trials and prospective and retrospective uncontrolled studies were included.

Specific interventions included in the review
Studies of rate control and rhythm control strategies were eligible for inclusion. The rate control interventions included atrioventricular (AV) node ablation with or without pacing and pharmacological rate control, pharmacological rate control alone and pacing alone. The rhythm control interventions included percutaneous catheter ablation, surgical intervention, cardioversion and pacing, and anti-arrhythmic drugs. Some studies were uncontrolled, others compared different interventions of the same type, and others compared rate control against rhythm control interventions.

Participants included in the review
Studies of patients with AF were eligible for inclusion; studies of patients with other conditions were only included if data for those with AF were reported separately. The included studies varied in the proportion of patients with different types of AF (paroxysmal, persistent or permanent). The participants in studies of rate control tended to be older than those in studies of rhythm control.

Outcomes assessed in the review
Studies that assessed QoL by interview, validated questionnaire, a single question or a QoL diary were eligible for inclusion. A wide range of different assessment methods was used in studies of rate control and rate versus rhythm control. Most studies of rhythm control interventions used the SF-36 questionnaire.

How were decisions on the relevance of primary studies made?
Two reviewers independently selected studies for the review. The authors did not state how any disagreements were resolved.

Assessment of study quality
The authors did not state that they assessed validity, but methodological weaknesses of the included studies were identified in the text and tables.
Data extraction
The authors did not state how the data were extracted for the review, or how many reviewers performed the data extraction. Data on changes in QoL from baseline and/or differences in QoL between treatment groups were extracted and statistical significance was reported.

Methods of synthesis
How were the studies combined?
The studies were combined in a narrative, grouped by type of intervention.

How were differences between studies investigated?
Differences between the studies were discussed in the text.

Results of the review
Forty-four studies were included in the review. Six uncontrolled studies (n=251) examined rate control strategies alone. Ten studies (n=666), including five randomised controlled trials (RCTs; n=330), compared different rate control strategies. Sixteen studies (n=1,027) examined rhythm control strategies alone; only one of these (n=35) was randomised. Four studies (n=704) compared different rhythm control strategies; two of these (n=455) were RCTs. Eight studies (n=1,813), including six RCTs (n=1,619), compared rate versus rhythm control strategies.

Most studies of rate or rhythm control interventions showed an improvement in QoL following the intervention. Three out of four large RCTs comparing rate versus rhythm control strategies reported that rate control was superior to rhythm control for improving QoL. However, the largest RCT found no difference between rate and rhythm control strategies.

Authors' conclusions
QoL in patients with AF could be significantly improved by both rate and rhythm control strategies.

CRD commentary
This review addressed a clear question and had clear inclusion criteria, although inclusion criteria for the study design were not stated. The authors searched a range of sources without language restrictions and also searched for unpublished studies, thereby limiting the risk of language and publication bias. The studies were selected by two independent reviewers, thus reducing the risk of errors and bias; it was unclear whether a similar method was used at the data extraction stage. The validity of the included studies was not formally assessed, but methodological limitations were highlighted in the text and tables.

Adequate details of the included studies were presented. A narrative synthesis of the studies was undertaken, which was appropriate in view of the heterogeneity in study designs and methods of measuring QoL in the included studies. As the authors noted, many of the included studies involved small samples of selected symptomatic patients, potentially limiting generalisability to the broader population of patients with AF. The authors' conclusions are in line with the evidence presented and appear reliable.

Implications of the review for practice and research
Practice: The authors did not state any implications for practice.

Research: The authors stated that future large RCTs should involve representative populations of patients with AF rather than focusing on highly selected symptomatic patients, and should compare newer and more traditional rhythm control strategies with each other and with rate control strategies.
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This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.