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A Randomised Controlled Trial on the Effect of Nurse-led Educational Intervention at the Time of Catheter Ablation for Atrial Fibrillation on Quality of Life, Symptom Severity and Re-hospitalisation

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Background

Atrial Fibrillation (AF) is a common condition associated with impaired quality of life (QOL) and recurrent hospitalisation. Catheter ablation for AF is a well-established treatment for symptomatic patients despite medical therapy. We sought to examine the effect of point specific nurse-led education on QOL, AF symptomatology and readmission rate post AF ablation.

Methods

Forty-one patients undergoing AF ablation were randomised to Nurse Intervention (NI) versus Control (C), n=22 vs. 19. Both groups were well matched with respect to age, sex and AF subtype. All patients completed SF36 and AF Symptom Checklist, Frequency and Severity Scale questionnaires at baseline and six months post ablation. The NI group underwent nurse education on admission, prior to discharge, and with telephone contact.

Results

Baseline SF-36 and AF Symptom Checklist, Frequency and Severity scores were similar. The NI group showed significant differences compared to Control with respect to higher QOL on the SF-36 score of Physical Functioning and Vitality at six months. There were significant improvements in seven components of the AF Symptom Checklist, Frequency and Severity at six months in the NI group with a trend in a further seven. There was no difference in AF related hospital readmissions at six months between C and NI groups (10.5% vs. 13.6%, p=ns).

Conclusion

Nurse-led education at time of AF ablation is associated with improved QOL and reduced symptom frequency and severity compared to usual care.

Keywords

Ablation • Catheter Ablation • Trials

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Introduction

Atrial Fibrillation (AF) is the most common heart rhythm disorder[1,2] with an overall prevalence in the general population of 2%, rising to over 8% in those aged 75 and older[3]. There has been a progressive increase in AF incidence and prevalence in the last 30 years[2] and, with an expanding ageing population, the prevalence is expected to significantly increase in the coming decades across the US[4], Europe[5] and the Asia-Pacific region[6,7].

In addition to increased risk of stroke and death[8,9], atrial fibrillation is characterised by a myriad of symptoms including shortness of breath, fatigue, chest pain, palpitations and dizziness which are associated with impaired quality of life (QOL), anxiety and depression[10-14], which in turn adversely impact on self-reported AF symptom severity [13,15,16].

Catheter ablation is a well-established treatment for AF, and is currently a Class I indication for drug refractory symptomatic paroxysmal AF and a Class IIa indication for persistent AF[17,18]. It is associated with improvement in QOL compared to anti-arrhythmic drug therapy[19,20]. However, impaired QOL remains common and baseline indices of QOL are associated with recurrence of symptoms post ablation[21].

Nurse-directed education, counselling and intervention has proven to be an effective tool in improving quality of

life, reducing anxiety and improving outcome in patients with many chronic diseases including heart failure[22,23], ischaemic heart disease[24,25] and renal failure[26,27]. With regards to atrial fibrillation, there are emerging data supporting the role of nurse education and counselling in patients with AF in the outpatient setting[28,29] and more recently as part of an integrated multi-disciplinary approach following hospitalisation[30]. These all require ongoing nurse intervention over time. However, there are also data to support a single or limited time point intervention of nurse-directed education prior to cardiac surgery[31,32], but no data are available on its effect in patients undergoing catheter ablation for atrial fibrillation.

We therefore performed a small, randomised controlled trial to examine the hypothesis that nurse-led educational intervention at the time of radiofrequency ablation for atrial fibrillation would have a positive effect on symptomatology, QOL and readmission rate in the six months following the procedure.

Methods

This study was approved by the institutional ethics committee and all participants provided written informed consent. The study design is outlined in Figure 1.

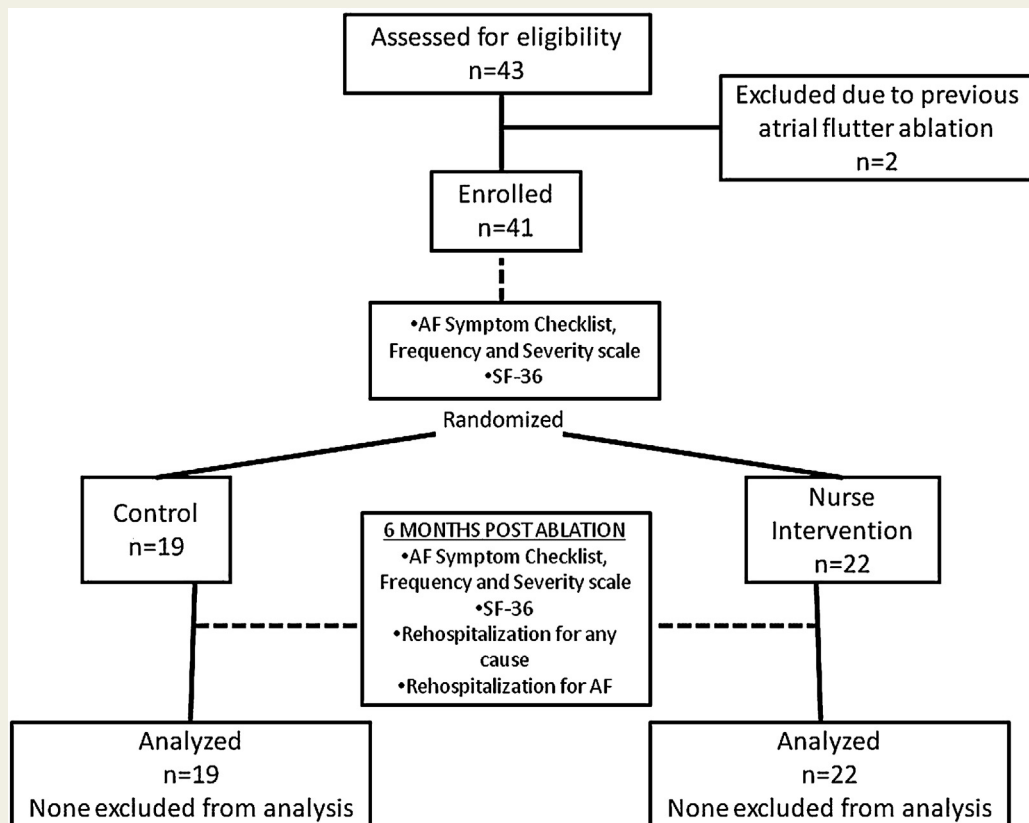


Figure 1 CONSORT diagram of study design.

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