



## **BHRS Position Statement Catheter Ablation for Persistent AF – November 2010**

### **Background**

Atrial fibrillation affects at least 1% of the United Kingdom population. There is a wide spectrum of both the manifestations and consequences of the arrhythmia. 30-40% of patients with have intermittent (paroxysmal) AF and the remainder will be in it constantly (either persistent or permanent AF). Symptoms may vary from none at all to severe and compromising.

The treatment of atrial fibrillation (AF) has developed considerably over the past 10 years. In particular catheter ablation has been used increasingly in the UK for symptomatic patients who cannot take or have been failed by antiarrhythmic drugs. It is endorsed by current NICE guidance as a 2nd line treatment for patients with paroxysmal AF. European guidelines also recommend catheter ablation for both PAF and persistent AF when drug therapy has been unsuccessful. Importantly cost effectiveness analysis has indicated that ablation is highly cost effective with a cost per QALY of less than £8000.

The past 5 years have seen a significant increase in AF catheter ablation numbers (from 415 procedures in 2005 to 4068 in 2009 - CCAD data, personal communication). The majority of catheter ablation performed in the UK is for paroxysmal AF, but there is increasing use of ablation for persistent AF as this group represents the majority of AF sufferers and many have significant symptoms that impair quality of life.

The definitions of paroxysmal and persistent AF are unfortunately rather arbitrary, and are felt by many electrophysiologists to be unhelpful in assessing the likelihood of successful catheter ablation. Paroxysmal AF is defined as episodes of <7 days which spontaneously convert back to the normal sinus rhythm. Persistent AF is AF of duration

>7 days, this requires medical intervention to restore normal sinus rhythm. Many patients can have both types of AF. The recent European Society of Cardiology guidelines on AF management recognise an additional category of 'long-standing persistent AF'. This is defined as AF of duration > 1 year being managed with a rhythm control strategy.

Recently catheter ablation for AF has been the subject of attention by health commissioners. The purpose of this document by British Heart Rhythm Society (BHRS) is to provide support for continued funding for catheter ablation of persistent AF.

### **Indications**

Catheter ablation of AF is part of tiered therapy and is considered after initial rhythm control strategies with drugs have failed. Selection of patients for catheter ablation of persistent AF should be done with care. The principal indication for the procedure

is for symptomatic benefit and the operator should feel that there is a reasonable (>60%) chance of long-term restoration of sinus rhythm, within a limited number of procedures.

The procedure is also indicated in other patient groups. Specifically, this includes patients who the Cardiologist considers to have a high likelihood of an improved prognosis by the restoration and maintenance of sinus rhythm, and patients for whom effective rhythm control by antiarrhythmic medication has resulted in improved quality of life or recovery of left ventricular function, but there are issues / concerns regarding side effects (principally amiodarone). These recommendations are similar to the recent ESC Guidelines.

## **Success Rates**

The cost-effectiveness of ablation is highly influenced by the initial success rates and the likelihood of this benefit being maintained. It is important to recognise that the initial and longer-term results of ablation for persistent AF are not as good as for paroxysmal AF. Several factors associated with reduced short-term and longer-term success rates have been reported in the literature.

Success rates for ablation of persistent AF vary in the published literature. It is beyond the scope of this document to review all the trial results, but several points should be made:

1. Single procedure success rates are mostly 30-50%
2. Multiple procedure success rates are mostly around 70% (mean of 2 per patient)
3. Some patients continue on anti-arrhythmic medication post ablation
4. Follow-up durations vary widely. Longer term follow-up has highlighted an increased risk of AF recurrence following persistent AF ablation.

Longer duration of AF, larger left atrial size, hypertension, structural heart disease and diabetes mellitus have all been shown to predict a reduced likelihood of ablation success. These comorbidities are frequently associated with atrial fibrillation and may be found in a significant proportion of ablation patients.

There is published data from 2 UK centres with success rates of 68% Barts and 83% Newcastle depending on the definition of success. The mean number of procedure per patient in both these studies was 2.

## **BHRS Position Statement**

Catheter ablation for persistent AF may lead to successful rhythm control in the majority of appropriately selected patients, is superior to pharmacological rhythm control and is usually applied only after drug treatment has failed. In the absence of a major randomised trial proving morbidity and mortality benefits the principal indication should be for symptomatic benefit, in those refractory to antiarrhythmic drugs.

Ablation is also indicated in patients considered to be at high risk from AF, or with substantial improvements in left ventricular function following a pharmacological rhythm control strategy.

Robust audit of clinical and quality of life data should be kept on all patients undergoing ablation for persistent AF. Cardiologists performing ablation for persistent AF should engage with health commissioners to ensure a clear understanding on both sides of the issues involved.

## **BHRS Council, November 2010**

### **References**

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