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# Treatment of atrial fibrillation with ablation

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EDITORIAL

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## **Catheter-based ablation is a well-established treatment for atrial fibrillation. The fact that ablation of atrial fibrillation can also be carried out during open-heart surgery is less well known.**

Atrial fibrillation is the commonest type of arrhythmia, affecting 2–4 % of the adult population (1). Its prevalence increases with age, is higher in men than in women in the age group 50–80 years and is expected to increase in the years ahead because of the higher life expectancy of the population and increasing prevalence of lifestyle diseases, which are conducive to atrial fibrillation.

Atrial fibrillation is classified into five groups: *first diagnosed*, *paroxysmal atrial fibrillation* which converts spontaneously or through an intervention within seven days; *persistent atrial fibrillation* (> 7 days); *long-standing persistent atrial fibrillation* (> 12 months); and *permanent atrial fibrillation*, where attempts to restore sinus rhythm have been abandoned. The European guidelines recommend that designations such as lone atrial fibrillation, valvular/non-valvular atrial fibrillation and chronic atrial fibrillation should not be used any longer because they are imprecisely defined and confusing (1).

Catheter ablation is an effective treatment for establishing stable sinus rhythm in patients with paroxysmal or persistent atrial fibrillation (2, 3). Randomised trials have found significantly higher quality of life and less atrial fibrillation in patients after ablation treatment than with medical treatment (4), and it is a strongly recommended therapy in the European guidelines for patients who have symptoms despite medical treatment.

There is no documented reduction in total mortality, stroke or severe haemorrhage in patients treated with ablation. Two randomised trials have shown a reduction in total mortality and new hospitalisations in carefully selected patients with left ventricular dysfunction (5), but for the great majority of patients, ablation of atrial fibrillation is a symptomatic treatment. In Norway, about 1 700 catheter-based ablations for atrial fibrillation are performed annually (personal communication, Erik Kongsgård). A national quality register for ablation treatment and electrophysiology is being established, and 2020 will be the first complete year of registrations.

*«In the period 2006–2019, an average of 83 surgical ablations for atrial fibrillation were performed annually at Norwegian hospitals, and the results are not widely known»*

The Journal of the Norwegian Medical Association is now publishing an article on the long-term results of ablation for atrial fibrillation in patients undergoing open heart surgery in Norway (6). The procedure is performed as a concomitant procedure during other heart surgery. In the period 2006–2019, an average of 83 surgical ablations for atrial fibrillation were performed annually at Norwegian hospitals (7), and the results are not widely known. It is therefore very commendable that Andersen et al. are reporting the outcome for the 19 Norwegian patients who were included in an international study in 2008–2010. They found that while 14 of 19 patients had sinus rhythm six months after the procedure, only 6 of 18 still had sinus rhythm five years after the intervention.

Surgical ablation was developed in the 1980s by J. Cox et al., who showed that ablation by means of the so-called maze operation was highly effective for achieving sinus rhythm. A modified intervention, the Cox-maze IV procedure, is used today. Good results are reported internationally, with absence of atrial fibrillation in 89 % of patients one year after the intervention (8). A retrospective study showed that patients who had undergone the Cox-maze IV procedure had higher ten-year survival than patients with atrial fibrillation who had not undergone ablation (9), but the long-term effects on quality of life, hospitalisations, stroke and mortality have not been well documented in randomised studies. There is only one such study, and it found a significant reduction in stroke after five years, and a higher probability of preserved sinus rhythm (10).

As so few ablations for atrial fibrillation are performed concomitant with open-heart surgery in Norway, we will have to rely on international studies regarding the short- and long-term effects of the intervention. It is important, nonetheless, also to report on outcomes for patients undergoing surgery at Norwegian centres, and the study by Andersen and co-workers contributes to this.

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