CARDIOLOGIE ANDERLECHT
Le coeur battant d'Anderlecht

Atrial fibrillation and catheter ablation

You will soon be treated for the cardiac arrhythmia atrial fibrillation (AF). Your cardiologist has informed you about this and discussed the treatment applicable to you. With this leaflet, we inform you about the various options that will be applied.

It is good to realise that for you personally, the situation may be different from the one described here.

What is atrial fibrillation?

Atrial fibrillation, abbreviated AF and also called antechamber fibrillation, is one of the most common disorders of the heart's rhythm. The normal heart rhythm is regular at a rate between 50 and 90 beats per minute at rest. This rhythm is made in the sinus node, an organ high in the right anterior chamber. This is where an electrical impulse is created that spreads through both antechambers in a short time. The speed, also called frequency, of the sinus rhythm is between 50 and 90 beats per minute at rest. On exertion, it can rise to 150 and 190 beats per minute. This depends on age. In atrial fibrillation, there is a very fast and irregular heart rhythm in both anterior chambers of more than 300 beats per minute. This involves many electrical impulses moving rapidly and criss-crossing each other. It looks like a kind of 'electrical chaos' in the antechambers. Only part of the antechamber beats are pre-routed to the chambers of the heart, so the heart rate usually comes to between 100 and 160 beats per minute.

What are the symptoms?

Most people have distinct complaints with atrial fibrillation. These may include complaints of palpitations, dizziness, fatigue and shortness of breath. The severity of these symptoms can range from minor to very severe. Some people are severely restricted in their activities. It is important to realise that no matter how severe and troublesome the symptoms may be, the heart continues to pump as usual in all cases. No matter how fast and irregular the heartbeat is, the chambers of the heart are just doing their job and it is never immediately dangerous.

In general, younger people suffer more from atrial fibrillation than older people. This is partly because in young people, the heart rate is often faster than in older people. It seems contradictory, but people with chronic atrial fibrillation often suffer less from atrial fibrillation than those with only minor attacks.

Causes of atrial fibrillation

There is no single clear cause for atrial fibrillation. However, there are many factors that make AF more likely, such as high blood pressure, heart valve defects, atherosclerosis (arteriosclerosis), heart failure and some other arrhythmias. There are also factors outside the heart that cause AF such as lung disease or thyroid disease. The building and structure of the antechambers also plays a role, such as the thickness and arrangement of the muscle fibres. A clear cause that explains the whole fibrillation can be found in almost no one. Most people with AF search in vain for factors that trigger an attack in them, such as foods or certain activities. Even such factors are often difficult to find, although there may be certain patterns. Indeed, in most people, an attack starts at rest or after exertion. The onset of AF during exercise is very rare. Nocturnal AF is very common. Therefore, there is often no reason to be cautious with exercise or sports.

The only food known to have a clear relationship with AF is alcohol. A clear relationship between coffee and AF is rare. Some other foods or substances may cause symptoms in individual people. Avoiding such substances is only recommended if you feel a very clear relationship with AF.

How often does atrial fibrillation occur?

Atrial fibrillation is the most common cardiac arrhythmia. There is a clear relationship with age. In children and young adults, AF is very rare. The incidence is estimated at five per cent over 65 years of age and even 10 per cent over 80 years of age. Studies show that someone aged 40 has about a one-in-four chance of developing atrial fibrillation at some point in their life.

So although atrial fibrillation is common in the elderly, younger people tend to have more symptoms of AF.

Is atrial fibrillation dangerous?

Although the cardiac arrhythmia is often experienced as very annoying by patients, cardiologists basically consider atrial fibrillation a harmless arrhythmia. However, there are two main complications:

1. AF can create blood clots in the heart that can shoot into the body, e.g. to the brain. This risk actually exists mainly in the elderly (over 70 years old) and people with concomitant heart problems. For this reason, these people usually receive strong blood thinners.

2. People who have a much too fast heart rate for a long time (months to years) may experience a reduction in the heart's pumping function as a result. For this reason, many people with chronic AF are given drugs to lower the heart rate.

In principle, people with AF who have a heart rate that is not too high and who take blood thinners if necessary have a good prognosis (prognosis). Treatment of AF is aimed more at reducing symptoms than improving prognosis.

The treatment

Usually, the first attempt is to prevent the occurrence of AF (control of rhythm). If this is not or no longer possible, the existence of AF should be accepted and blood thinners and sometimes heart rate-lowering drugs should be prescribed (control of frequency).

With medication

Almost always, AF is first tried to be treated with drugs. The cardiologist uses various drugs that are reasonably effective in preventing or reducing AF attacks. Combinations of drugs are often given. Commonly used drugs are: flecainide, propafenone, disopyramide), sotalol and amiodarone).

In many people, with the right combination and dosage of these drugs, AF can be treated well. However, the cardiologist does not know in advance which drug will work well in which patient. In a proportion of patients, these drugs give no or insufficient results, or the effect diminishes over time. The various drugs have few or mild side effects; sometimes the occurrence of side effects can be a reason to stop the drug. The drug amiodarone (Cordarone) in particular can cause side effects, especially with long-term use. With such side effects, the use of these drugs should be stopped. There are many people who are free of AF for years with amiodarone, without side effects.

When medicines don't help (anymore)

The moment medication no longer helps AF, there are a number of options. Perhaps the most important is simply to accept the AF. In recent years, it has become clear that this is not a bad option, especially for people who do not have too many symptoms. This is also a safe choice if the heart rate is not too fast and people are on blood thinners. Contrary to popular belief, a pacemaker is basically not a good treatment for atrial fibrillation. A pacemaker can maintain the heart rate in people whose heart rhythm is too slow. So in AF where the heart rate is too fast, it does not help.

In recent years, catheter ablation of AF has become an increasingly common technique with which AF can be definitively treated in 80% of cases.

Catheter ablation

The idea behind catheter ablation in AF is that the pulmonary veins play a role in causing or maintaining AF. The four pulmonary veins bring oxygen-rich blood from the lungs back to the heart. AF can be remedied or reduced in a proportion of people by electrically isolating these pulmonary veins from the left atrium.

In catheter ablation, an electric current flows through a catheter into the tissues of the heart. The resistance encountered by this current causes the tissue to heat up, creating a burn and scar. The principle is similar to a light bulb where the electric current also produces heat.

In this way, many scars are placed around the pulmonary veins. This creates a circular scar, preventing impulses from reaching the anterior chamber from the pulmonary veins.

Nothing happens to the pulmonary veins and blood flow. In this way, all four pulmonary veins are circled and electrically isolated. In a proportion of people with AF, this is enough to stop or greatly reduce arrhythmias. In a number of people, it does not help. A second attempt is then made to remedy the AF with more extensive ablations. However, the outcome of such treatments is less successful.

Risks and complications

No treatment is without risk of complications. It is always very important to carefully weigh up the pros and cons of treatment or refrain from treatment. Generally, AF is considered a relatively benign condition. Thus, catheter treatment does not need to be performed to improve the prognosis. Usually, this treatment is chosen to improve quality of life. There are some complications associated with cardiac catheterisation. Most commonly, bruising and post-operative bleeding occur in the groin. The risk of complications from catheter ablation is small. The most common complication is a so-called tamponade. This can cause a hole in the wall in certain areas of the left ventricle; this often occurs with a fairly thin wall. This causes blood to accumulate around the heart and impairs cardiac function. As a result, blood pressure drops and the patient feels less well. This complication, which occurs in about one per cent of treatments, can be remedied immediately and has no long-term consequences.

The more serious complications are much rarer. Clots can form on the ablation catheter or on the scarred tissue, which can shoot into the body. By administering strong blood thinners during treatment, the risk of such a complication is very small. Burning with the ablation catheter can also cause damage to tissues surrounding the heart. This can occur to the pulmonary veins themselves, a nerve to the diaphragm, or, in extremely rare cases, to the oesophagus.

After-care

After an ablation, you can generally go home the same day. In the first few hours after an ablation, you may feel a little nauseous or tired, but such symptoms usually disappear quickly. The insertions in the groin may cause bleeding and bruising. Sometimes there is a somewhat burning sensation in the chest after the ablation. The effect of a successful catheter ablation may not be immediately noticeable. There are patients who experience anterior chamber fibrillation again in the first weeks to months after treatment. This can sometimes be even more severe than before, while this often disappears later. A proportion of patients require a second procedure.

Some of the scarring made during catheter ablation sometimes recovers. This allows unwanted impulses from the pulmonary veins to re-enter the left antechamber and disrupt the rhythm again. A second procedure is similar to a first one, often requiring less scarring.

Questions?

If, after reading this leaflet, you still have questions about the treatment, please contact your cardiologist by phone.

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