



Catheter Ablation of Atrial Fibrillation

Procedure Information Sheet

Introduction

Recently, catheter ablation, traditionally used for treatment of supraventricular tachycardia, has been applied for treatment of atrial fibrillation. Atrial fibrillation (AF) is the most common arrhythmia encountered in clinical practice. It has three disadvantages, namely (1) Irregular fast heart beat; (2) impairment of contraction of the atrium; and (3) formation of blood clot. These result in palpitation, breathing difficulty, chest discomfort, fatigue, and fainting. In the long run, it may cause heart failure and dislodgement of the blood clots to different organs, e.g. leading to stroke.

Specially designed needle and instrument will be used to make a small hole in the area separating the right and left atrium (Transseptal Left Heart Catheterization). This small hole enable physician to bring catheters from the right atrium to the left atrium. After identify the abnormal electrical firing foci or thoracic vein (e.g. pulmonary veins, superior vena cava), apply energy to destroy them or confining them inside the thoracic vein, making them not able to conduct into the atrium. This procedure not only cures atrial fibrillation, but also controls the symptom and improves quality of life.

Indication

Patients suffering symptomatic atrial fibrillation despite medical therapy or those intolerate to medical treatment.

The Operation / Procedure

- 1. This invasive procedure is performed under local anesthesia in a cardiac catheterization centre. Patient is alert during the procedure, but sedation may be given for calm down purpose.
- 2. Electrodes are adhered to the chest to monitor the heart rate and rhythm. Blood oxygen monitor through finger tip will be set up. Measurement of blood pressure from the arm will be taken during the examination.
- 3. Small wounds are made over the groins, under the clavicle or around the neck for access to arteries or veins. Catheters are advanced to the heart under X-ray guidance.
- 4. At specific sites inside the heart, electrical information will be recorded; then deliver tiny electric current to alter heart rate and try to trigger arrhythmias.
- 5. Patient may experience discomfort when the heart is being excited to certain rate.
- 6. Since the abnormal electrical activities usually arise from the left atrium, doctor needs to perform transseptal left heart catheterization with special needle and instruments, make a small hole in the area separating the right and left atrium. This small hole enable doctor to bring catheters from the right atrium to the left atrium.
- 7. Using computerized tomography image, signals recorded from the catheters, and 3-dimensional navigating system, doctor can identify the abnormal electrical firing foci or thoracic vein (e.g. pulmonary veins, superior vena cava).
- 8. Energy will be delivered to the target site via special catheter. Patient may experience slight chest discomfort during delivery of energy.
- 9. After ablation, electrophysiology study will be carried out to confirm the success of the procedure.
- 10. When an induced arrhythmia is persistent, medical staff may use direct current cardioversion to convert it.
- 11. The duration of the procedure could last from 4 hours to over 9 hours depending on the nature and complexity of the arrhythmia.
- 12. Patient will be sent to the ward for observation for another 12-24 hours.

Patient's Label	
Patient Name:	
Hospital No:	
Episode No:	
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Before the Operation / Procedure

- 1. Patient may be asked to stop some or all of the anti-arrhythmic drugs and blood thinner (warfarin) before the procedure.
- 2. If patient experiences severe symptom during this period (e.g. palpitation or fainting attack), seek immediate medical attendance at hospital.
- 3. Patient need to sign an informed consent.
- 4. Patient may need to undergo investigations like blood tests, electrocardiogram, chest X-ray, computerized tomography (CT) or Magnetic resonance imaging (MRI) of the heart and transesophageal echocardiogram to make sure there is no abnormal blood clot and rule out other structural heart disease.
- 5. Fasting of 4-6 hours is required prior to the procedure. An intravenous infusion line will be set up.
- 6. Shaving and disinfection near the puncture site may be required.
- 7. If patient is a female, please provide the last menstrual period (LMP) and avoid pregnancy before the procedure as this procedure involves exposure to radiation.

After the Operation / Procedure

- 1. After the procedure, catheters will be removed. The wound site will be compressed to stop bleeding.
- 2. Nursing staff will check blood pressure, pulse and wound regularly.
- 3. Bed rest may be necessary for 4 hours. In particular, do not move or bend the affected limb. Whenever cough or sneeze, please apply pressure on the wound with hand.
- 4. Should inform nurse if blood oozing is found from the wound site.
- 5. Patient may resume diet after the procedure as indicated.
- 6. Patient still need to take blood thinner to prevent formation and dislodgement of blood clot from the heart for certain period of time. Depending on the likelihood of future stroke, doctor will determine whether patient will need long term blood thinner.
- 7. The wound will be inspected and covered with light dressing. Please keep the wound site clean and change dressing if wet. Showers are allowed 3 days after the procedure.
- 8. Please avoid vigorous activities (household or exercise) in the few days after the procedure. Bruising around the wound site is common and usually subsides 2-3 weeks later. If any signs of infection, increase in swelling or pain over the wound, please come back to the hospital immediately.
- 9. Patient may still experience intermittent palpitation in the first 3 months after the procedure and therefore patient still need to continue medication. The final result of the operation will be more obvious after 3 months.
- 10.Doctor has explained the results of the procedure before discharge. Any further questions, discuss with doctor during subsequent follow-up.

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Risk and Complications

- 1. The procedure carries certain risks.
- 2. Minor complications includes wound bleeding and wound infection.
- 3. Major complications account for about 4.5%. These include damage to blood vessels, lung and the heart that may need surgical intervention, cardiac tamponade, narrowing of the pulmonary vein, damage of the nerve supplying the diaphragm leading to permanent diaphragmatic paralysis, stroke, formation of abnormal communication between the esophagus and the heart, infection, and death (0.15%) due to uncontrollable complications.
- 4. The procedure may not be able to improve symptom in about 30% of cases.
- 5. Some people may require more than one procedure.

Alternative Treatment / Investigation

Medical treatment.

Disclaimer

This leaflet only provides general information pertaining to this operation / procedure. While common risks and complications are described, the list is not exhaustive, and the degree of risk could also vary between patients. Please contact your doctor for detailed information and specific enquiry.

Reference

Smart Patient Website by Hospital Authority: Catheter Ablation of Atrial Fibrillation (4/2019)

		Patient's Label Patient Name: Hospital No: Episode No:
Patient's Signature:	Date:	