仁安醫院
UNION HOSPITAL

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Procedure Information

Left Atrial Appendage Occlusion (LAAO)

Introduction

Atrial fibrillation (AF) is the most common cardiac arrhythmia, affecting 3-5% of the population aged 65-75 years, and increasing to >8% of those older than 80 years. It is associated with substantial mortality and morbidity, particularly due to fatal or disabling stroke. The risk of ischemic stroke in patients with non-valvular AF is 3-5% per year, which is a fivefold increase compared with the unaffected population.

For prevention of this complication, oral anticoagulation (OAC) is the standard treatment in patients with AF and at high risk for stroke. This anticoagulant therapy has been proven to effectively prevent thromboembolic strokes, but the increased risk of serious bleeding prevents many patients from taking this therapy. Therefore, alternative treatment option for stroke prevention – without increasing the risk of bleeding – in patients with AF with increased stroke risk are needed.

Percutaneous left atrial appendage occlusion (LAAO) is a minimally invasive therapy, which should be taken into consideration in those patients with AF with a high stroke risk and not suitable for long-term use of OAC.

Preparation before the procedure

Doctor will review the medical record, history and current medications to confirm feasibility for LAAO.

- Trans-esophageal echocardiogram (TEE) or Computed Tomography (CT) will be performed to assess and confirm the anatomy of left atrial appendage, to see whether LAAO is suitable.
- Doctor will explain the benefits and details of the procedure, together with the possible risks and complications. A consent form is required for the procedure.
- Before the procedure, the doctor may prescribe oral anticoagulation or anti-platelet medications to prevent blood clot formation. Antibiotic will be given to decrease chance of infection on the date of procedure.
- Oral anticoagulation medication or Metformin (for diabetes) may have to be stopped several days before the procedure. Drugs such as steroid may be prescribed as prophylaxis for allergy. Please adhere to the prescription strictly.
- Fasting of 4-6 hours is required prior to the procedure. An intravenous drip may be set up. Shaving may be required over the puncture sites.
- For female patient, please provide last menstrual period and avoid pregnancy before the procedure as this procedure involves exposure to radiation.

Procedures

Placement of the left atrial appendage occluder will be performed by cardiologists experienced in intervention for structural heart diseases. This procedure will be performed in a well-equipped cardiac catheterization laboratory guided by fluoroscopy and TEE. Intra-cardiac echocardiography may also be used for guidance of procedure.

- This procedure is performed under sterile conditions with general anaesthesia (GA) or monitored anaesthetic care (MAC) delivered by an anaesthetist. The procedure may also be

performed using local anaesthetic.

- Electrodes will be adhered on the chest to monitor the heart rate and rhythm. Other vital signs such as blood oxygen level and blood pressure will be monitored.
- Doctor may perform TEE during the procedure. This test uses sound waves (ultrasound) to take a closer look at the structures of the heart. To perform the test, a thin flexible tube with a special tip will be swallowed. This tube sits in the esophagus (the tube that connects the mouth to the stomach). The special tip of the tube sends out sound waves that echo within the chest wall. The esophagus is located behind the heart so these echoes are picked up and create a picture of the heart that is displayed on a video monitor. The pictures will allow the doctor to take a closer look at the left atrial appendage (LAA).
- A small wound is made over the groin for access to vein. Both groins may be used. Sheaths will be placed inside the vein. Catheters are advanced to the heart. Pressures within the heart are measured. Contrast is injected and films are taken.
- The septum separating the left and right atrium is punctured by a special needle under echocardiographic or fluoroscopic guidance. Contrast injection may be required for the procedure.
- Appropriate size of LAAO device will be chosen according to the repeated measurement over LAA by echocardiographic and fluoroscopic assessment.
- After deployment of the LAAO device, doctor will confirm the device is located at optimal position with firm stability, adequate size compression, and adequate sealing over all lobes of LAA. After the final release of the LAAO device, the device will be detached from the catheter that will be removed out of the body.

After the Procedure

- After the procedure, catheters will be removed. The wound site will be compressed or sutured to stop bleeding.
- Nursing staff will check blood pressure, pulse and wound regularly.
- Bed rest may be necessary for 4 hours. In particular, please do not move or bend the affected limb. Please apply pressure on the wound with hand while coughing and sneezing.
- Inform the nurse for any discomfort in particularly chest discomfort or blood oozing from the wound site.
- Once diet is resumed, please take more fluid to help eliminate contrast by passing urine.
- Please follow instruction on the use of medications.

Follow Up

- Usually can be discharged a couple of days after the procedure.
- The wound will be inspected and covered with light dressing. Please keep the wound site clean and change dressing if wet. In general, showers are allowed after 2 days.
- Please avoid vigorous activities (household or exercise) in the first 3 days after the procedure. Bruising around the wound site is common and usually subsides 2-3 weeks later. Any signs of infection are noted, such as increase in swelling or pain over the wound, please come back to the hospital or visit a nearby Accident and Emergency Department immediately.
- Usually the doctor will explain the results of the procedure before discharge. For any further questions, please discuss with the doctor during subsequent follow-up.
- After device implantation, oral anticoagulant, or double anti-platelets (Aspirin and Clopidogrel) will be prescribed for initial 6-months and then Aspirin alone indefinitely.
- TEE would be performed within 3 months after the procedure to assess the sealing of LAA by the device.
- Please take appropriate endocarditis prophylaxis for six months following device implantation.

Possible risks or complications

- There is a small risk of around 0.5-1% of respiratory depression, low blood pressure or heart rate associated with GA or MAC. The sedative process will be closely monitored by an anaesthetist to ensure safety.
- There is a small risk regarding TEE (less than 0.5% esophageal rupture or aspiration pneumonia) but the test would be necessary in most patients to have a clear look of LAA, to guide the operation and to monitor development of severe complications.
- The procedure is associated with major complications, including cardiac perforation and tamponade (about 4%), device embolism (about 1%), stroke (about 0.5%), major bleeding (about 1%) and death (about 1%).

Should there be any enquiries or concerns, please consult the attending doctor.

Under the professional care of the doctor, you will gradually recover. We wish you all the best during your treatment and recovery.

If you have any questions after reading the entire leaflet, please write them down in the spaces provided in order for the doctor to further follow-up.

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Compiled by Union Hospital Operating Theatre (OT) Governance Committee

The above information is for reference only, please enquire your physician for details
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