Implantable Loop Recorder (ILR)

Introduction

Patients may have unexplained recurrent symptoms of dizziness, palpitation or loss of consciousness. There are many causes, such as arrhythmias (abnormal heart rhythm). Sometimes, a definitive diagnosis cannot be made after conventional investigations. Implantable loop recorder (ILR) is used to check whether the symptoms are due to arrhythmias. It is a small device implanted usually under the skin of the left chest wall. It consists of 2 internal electrodes, through which the heart rhythm can be monitored. The battery can last for about 2-3 years.

Importance of Procedure

ILR serves to help your doctor in confirming or excluding whether a particular kind of arrhythmia is the cause of your symptoms. This information can be important in guiding treatment for you. If you refuse this procedure, the diagnosis and treatment of your problem may be delayed. Alternative tests include conventional non-invasive tests and electro-physiology study.

Pre-Procedure Preparation

- You need to sign an informed consent after explanation from your doctor.
- You need to undergo investigations like blood tests, electrocardiogram, chest X-ray.
- Blood thinning drugs may have to be stopped several days before the procedure.
- Intravenous fluid and antibiotic may be given.
- Fasting for 4-6 hours before the procedure may be necessary.
- Shaving near the implant site may be required.

The Procedure

- This invasive procedure is performed under local anesthesia in a cardiac catheterization centre or an X-ray room. You are alert during the procedure, but we may give you sedation to calm you down.
- A small incision (about 1 cm long) is made over the left chest wall.
- The ILR is inserted through the incision into the pocket underneath the skin.
- The wound will be closed with suturing material and covered with dressing.
- The procedure usually takes about 20-30 minutes.

Post-Procedure Care

- After the procedure, you will be kept on close monitoring in the ward.
- Nursing staff will check your pulse and wound regularly.
- You should inform your nurse if you find blood oozing from the wound site.
- You may resume oral diet as instructed.

- A course of antibiotic and analgesic (if necessary) will be given.
- You may be discharged from hospital same day after the ILR implantation.

Post-Procedure Follow Up

- The wound should be covered with light dressing. Please keep the wound site clean and avoid making the dressing wet during a bath. Always change dressing if wet.
- You may need to come back to the ward or clinic for suture removal 1 week after the procedure. You may remove the dressing 2-3 days after suture removal.
- Please avoid lifting the affected arm for 1 week, and avoid vigorous arm movement in the first month after the procedure.
- Follow your doctor's instructions or refer to the information booklet from the ILR company to minimize the risk of electromagnetic interference. In general, strong electro-magnetic field or radiofrequency signal will interfere your ILR. Please keep a distance of >15 cm (6 inches) from an active mobile phone. Household electrical or electronic appliance usually does not affect ILR.
- Depending on the type of ILR used, you may be given a hand-held activator for recording of events. We will explain to you how to operate.
- When a cause is found using the device, we may remove the ILR and give you the appropriate treatment accordingly.
- When battery is depleted, it can be removed or replaced as decided by your doctor.

Risks and Complications

- This procedure carries certain risks.
- Complications (1-2%) include wound infection, wound haematoma, device erosion through the skin and device migration. (Reference 1)
- Other potential risks include air embolism resulting in death or neurological damage, retained foreign body such as guide wires.
- Device deployment complications include device dislodgement, device entrapment and wire fracture

Fees and Charges

- This procedure involves the use of device which is 'Privately Purchased Medical Item'.
- Your doctor will advise you in choosing an appropriate model. You have to pay for the device before the procedure.
- Please note that there may be re-do of the procedure, either planned or unplanned, for various reasons. Separate charging is required for each procedure.

Remarks

- It is hard to mention all the possible consequences if this procedure is refused.

- The list of complications is not exhaustive and other unforeseen complications may occasionally occur. The risk quoted is in general terms. In special patient group, the actual risk may be higher.
- Should a complication occur, another life-saving procedure or treatment may be required immediately.
- If there is further query concerning this procedure, please feel free to contact your nurse or your doctor.

Reference

1. Crawford MH, Bernstein SJ, Deedwania PC,et al. ACC/AHA guidelines for ambulatory electrocardiography: executive summary and recommendations. A report of the American College of Cardiology/American Heart Association task force on practice guidelines. Circulation. 1999 Aug 24;100(8):886-93.
2. Task Force for the Diagnosis and Management of Syncope, European Society of Cardiology (ESC), European Heart Rhythm Association (EHRA), et al. Guidelines for the diagnosis and management of syncope (version 2009). Eur Heart J 2009; 30:2631.