香港浸信會醫院
Hong Kong Baptist Hospital

Electro-Physiology Study

Procedure Information Sheet

Introduction

Heart rhythm is mainly controlled by the conduction system of the heart. Any abnormality in the conduction system may result in abnormal heart rhythm (arrhythmia). Electro-Physiology Study (EPS) is a test to find out the cause of arrhythmia

EPS is an invasive procedure that can provide specific information on arrhythmia, which is more superior to other non-invasive tests. Based on the results of EPS, the most appropriate treatment can be offered such as drug therapy, surgery or radio frequency ablation. If patient refuse this test, may need to take long term medications to control the abnormal heart rhythm.

Indication

A patient suffering from arrhythmia may have palpitation, chest discomfort, dizziness or vertigo, this may result in heart failure. In severe condition, the patient may lose consciousness or have sudden death.

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 groin, 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; when an induced arrhythmia is persistent, medical staff may use direct current cardioversion to convert it.
6. The duration of the procedure may last from 30 minutes to over 1 hour depending on the nature and complexity of the arrhythmia.
7. Patient will then be sent to the ward for observation for another 12-24 hours.

Before the Operation / Procedure

1. Patient may be required to stop some or all of the anti-arrhythmic drugs before the procedure.
2. If patient experience severe symptom during this period (e.g. palpitation or fainting attack), seek immediate medical attendance at hospital.
3. Patient need to sign a written consent after explanation from doctor.
4. Patient need to undergo investigations like blood tests, electrocardiogram, chest X-ray.
5. Fasting for 4-6 hours is required prior to the procedure.
6. An IV infusion will be set up.
7. Shaving and disinfection near the puncture site may be required.
8. If patient is a female, please provide last menstrual period (LMP) and avoid pregnancy before the procedure as this procedure involves exposure to radiation.

Patient's Label
Patient Name: _____
Hospital No:_____
Episode No:_____

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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, please 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. Usually patient can be discharged 1 day after the procedure.
7. 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.
8. 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. If notice any signs of infection, increase in swelling or pain over the wound, come back to the hospital immediately.
9. During subsequent follow-up, doctor will explain the results of the procedure and discuss on the subsequent plan of management. Patient is advised to ask close relatives to join the interview.

Risk and Complications

1. The procedure carries certain risks.
2. Major complications account for about 0.1%. These include damage to blood vessels and the heart that might need surgical intervention, and death due to uncontrollable complications.
3. Minor complications (about 4%) include infection and bleeding at puncture site, blockage of blood vessel by clot, and arrhythmia.

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: Electro-Physiology Study (EPS) (4/2019)

Patient's Label
Patient Name: _____
Hospital No:_____
Episode No:_____

Patient's Signature:_____ Date:_____