Endomyocardial Biopsy

Introduction

Endomyocardial biopsy is an invasive procedure that allows sampling of heart muscle which can then be sent for histological examination. It is used to establish the diagnosis of heart muscle disease. It is performed with the use of X-ray guidance.

Importance of Procedure

This is an invasive procedure. It allows direct histological proof for specific heart muscle disease e.g. myocarditis, sarcoidosis, cytotoxic drug related cardiomyopathy or graft rejection after heart transplant. Currently, there is no alternative way to get histological diagnosis apart from a direct sampling.

Pre- Procedure Preparation

- You will be invited to a ward or a clinic for some preliminary tests including electrocardiogram, chest X-ray and blood tests. We will also check your allergy history. These can be performed days before the procedure or on the day of admission.
- Our medical staff will explain to you and your relatives the details of the procedure together with the possible risks and complications. This information leaflet will be provided. You have to sign an informed consent.
- Blood thinning drugs (e.g. warfarin/aspirin/plavix) may have to be stopped several days before the procedure.
- 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 site around the groin region.
- If you are a female, please provide your last menstrual period (LMP) and avoid pregnancy before the procedure as this procedure involves exposure to radiation.

The Procedure

- This invasive procedure is performed under local anesthesia in a cardiac catheterization centre. You are alert during the procedure, but we may give you sedation to calm you down.
- Electrodes are adhered to the chest to monitor the heart rate and rhythm. Blood oxygen monitor through your finger tip will be set up. Measurement of blood pressure from your arm will be taken during the examination.
- A small wound is made over the groin or neck for access to arteries or veins.
- Special catheter is advanced to the heart under X-ray guidance and/or echocardiographic guidance.
- Tiny pieces of heart muscle will be taken using special biopsy forceps.
- During the procedure, you may experience some chest discomfort or palpitations.

Post-Procedure Care

- After the procedure, catheter and sheath will be removed. The wound site will be compressed to stop bleeding.
- Nursing staff will check your 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. Whenever you cough or sneeze, please apply pressure on the wound with your hand.
- You should inform your nurse if you find blood oozing from the wound site.

Post-Procedure Follow Up

- Usually, you can be discharged 1 day 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, shower is allowed after 1-2 days.
- Please avoid vigorous activities (household or exercise) in the first few days after the procedure. Bruising around the wound site is common and usually subsides 2-3 weeks later. If you notice any signs of infection, 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 result of the biopsy will not be immediately available after the procedure. Your doctor will discuss the result with you during subsequent follow up.

Risks and Complications

- The procedure carries certain risks.
- Major complications include death (0.1%) and perforation of heart chambers (0.3-0.5%) leading to pericardial blood collection or circulatory collapse.
- Other possible complications include entry site haematoma, pneumothorax, injury to the recurrent laryngeal nerve, Horner's Syndrome or creation of transient heart block. (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.

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.
- 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. Grossman's Cardiac Catheterization, Angiography and Intervention 6th edition, D Baim, W Grossman; Chapter on Endomyocardial Biopsy.