



Procedure Information Sheet

Introduction

Cardiac catheterization is an invasive investigation to assess patient with heart disease. Information from the investigation will help to make a diagnosis and assess the severity of the heart lesions. The technique of cardiac catheterization can also be applied to treat various heart lesions. This is called Interventional Cardiac Catheterization. Specialized equipment is used to treat various heart lesions. By these methods a lot of heart lesions can be treated without surgery. Since only tiny incisions are made in the groin, hospital stay is shorter and recovery is much faster than conventional surgical operation.

Indication

Patient with heart disease such as holes in the heart or abnormal vessels, narrowed heart valves and blood vessels, etc.

The Operation / Procedure

1. Cardiac catheterization
 - 1.1. This invasive procedure is performed under local anesthesia or general anesthesia in a cardiac catheterization centre.
 - 1.2. The patient is monitored with the support of electrocardiography, capillary blood oxygen saturation and blood pressure measurement.
 - 1.3. A small wound is made by doctor over the groin, a small catheter is introduced into blood vessels and heart chambers to record pressure, take blood specimens at various sites for analysis, and to inject special dye to show up the anatomy of the heart.
 - 1.4. Specialized catheters are used to perform certain tests, e.g. catheter with electrodes for recording of electrical activities of the heart, catheter with tiny forceps at the tip for sampling small pieces of heart muscle.
 - 1.5. The movement of the catheter is guided and monitored continuously by X-Ray.
2. Interventional Cardiac Catheterization
 - 2.1. During the procedure specialized catheters are introduced into the heart or blood vessels, devices to close holes in the heart or to occlude abnormal vessels are then deployed via these catheters.
 - 2.2. Some catheters have inflatable balloon incorporated to the tip. Inflation of the balloon by fluid will dilate narrowed heart valves and blood vessels.

Before the Operation / Procedure

1. Patient undergoing cardiac catheterization will be examined by doctor before the procedure. Doctor will explain the purpose, risks and possible complications of the procedure. Patient need to sign an informed consent.
2. Simple tests such as electrocardiography (ECG), chest X-Ray, blood tests, cardiac ultrasound will be performed if necessary.
3. Patient is admitted to the ward one day before the procedure. Fasting of 4-6 hours is required prior to the procedure.
4. A small catheter is inserted into a vein for injection of medication.
5. Anesthetist will examine the patient the day before if general anesthesia is required.
6. Patient will be transferred to the cardiac catheterization laboratory after all preparation works have been done.

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



After the Operation / Procedure

1. Back from the centre the patient will be examined by nurses and doctors. Heart rate and oxygen level monitors will be connected until the condition is stable.
2. Some patient may require extra oxygen after the procedure, especially for those who have had general anesthesia or with cyanotic congenital heart disease.
3. Small amount of water is allowed 4 hours after the procedure if patient is fully awake. More food and drinks may be introduced if there is no vomiting.
4. Patient is required to rest in bed for 8-12 hours to prevent bleeding from the groin wounds.
5. Doctor will examine the patient again the next day. X-Ray of the chest, ECG and cardiac ultrasound may be repeated. If the wounds and other examination findings are satisfactory patient can go home.
6. Preliminary results of the investigation will be explained to the patient before discharge.
7. Patient can resume normal activities at home. However exercise should be restricted until the wounds are healed.
8. The bruises in the groin usually resolve in 2 weeks.
9. There may be a little blood oozing out of the wound in the groin. Applying pressure on the wound with a finger may stop the bleeding. If the oozing becomes uncontrolled, redness, swelling of the wound, severe persistent pain of the wounds or leg, patient should come back to the hospital immediately.

Risk and Complications

Cardiac catheterization is safe, however, since the procedure is invasive potential complications may still occur. The procedure carries certain risks. The followings are potential complications that may occur during or after the procedure:

1. Wound related: Bleeding, infection, blockage of the vessel, nerve injury in the groin.
2. Complications on the heart: Perforation of the heart chambers, myocardial infarction, damage to heart valves, induction of abnormal heart rhythm, heart block, pulmonary haemorrhage.
3. Complications related to interventional procedures: Dislodgement of devices, haemolysis, heart block.
4. Other complications: Stroke, kidney damage, drug reaction.

Some of these complications may be life threatening but the chance of developing these major events is only 1-2%. There are situations which may increase the risk of the procedure:

1. Infant younger than 12 months or body weight less than 10 kg;
2. Children with serious or unstable heart conditions;
3. Heart failure;
4. Pulmonary hypertension;
5. Severe cyanosis.

All interventional cardiac catheterizations are considered as high risk procedures.

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: Cardiac Catheterization and Interventional Catheterization (10/2007)

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Patient Name: _____
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Patient's Signature: _____ Date: _____