



Procedure Information Sheet

Introduction

Atrial septal defect (ASD) is the most common form of congenital heart disease, in which there is a congenital defect at the septum that separates the left and the right atria. As a result, there is abnormal shunting of blood from the left to the right atrium. This in turn leads to volume overload of the right heart system. Percutaneous closure of ASD is done by implanting a closure device across the defect. It is performed under the guidance of X-ray, through percutaneous method. Percutaneous closure is an alternative treatment method to the conventional open heart surgical closure. In selected cases, percutaneous closure is successful in over 90% of cases.

Indication

Patient with ASD may experience no symptoms in early years of life but may be complicated by pulmonary hypertension, congestive heart failure, arrhythmias and stroke starting from middle age. Timely closure of ASD may prevent such complications.

The Operation / Procedure

1. This is an invasive procedure that is performed in a cardiac catheterization centre, usually under local anesthesia.
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. A small wound is made at the groin for access to arteries or veins.
4. Catheters are advanced to the heart. Pressures within the heart are measured. Contrast is injected and films are taken. The degree of blood shunting is calculated.
5. The size of the ASD is then measured with a special sizing balloon.
6. The appropriate type and size of closure device will be deployed.
7. Both X-ray and echocardiogram are used for procedure monitoring. Special types of echocardiogram can be used, such as trans-esophageal (ultrasound probe placed in esophagus) or intra-cardiac (ultrasound probe placed in heart chambers).

Before the Operation / Procedure

1. An echocardiogram (ultrasound imaging of heart) will be performed to assess and confirm the location, size and functional significance of the ASD. Special attention will be taken on the feasibility of the percutaneous approach.
2. Some preliminary tests including electrocardiogram, chest X-ray, and blood tests will be done in ward or clinic. Allergy history will also be checked.
3. Doctor will explain the benefit and risk of this procedure. Patient need to sign an informed consent.
4. Blood thinning drugs or Metformin (for diabetes) may have to be stopped several days before the procedure. Steroid will be given if there is history of allergy. Antibiotic may be given as prophylaxis for the procedure.
5. Fasting of 4-6 hours is required prior to the procedure. An intravenous drip will be set up. Shaving may be required over the puncture site.
6. If patient is a female, please provide the 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: _____



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 patient feels any discomfort in particularly chest discomfort or blood oozing is found from the wound site.
5. Diet can usually be resumed.
6. Chest X-ray and echocardiogram are performed to confirm the closure device position and assess for any residual shunting.
7. Please follow instruction for the use of medications.
8. Usually can be discharged 1-3 days after the procedure.
9. The wound will be inspected and covered with light dressing. Keep the wound site clean and change dressing if wet. In general, showers are allowed after 2 days.
10. 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 any signs of infection, increase in swelling or pain over the wound, come back to the hospital immediately.
11. Usually doctor has explained the results of the procedure before discharge. Any further questions, discuss with doctor during subsequent follow-up.

Risk and Complications

1. The procedure carries certain risks.
2. Total major complications occur in less than 24% of cases and include death, perforation of the heart chamber, pericardial effusion, arrhythmias, vascular injury, and stroke, device dislodgement and wire fracture.
3. Minor complications (6%) include allergy to contrast reaction, nausea and groin complications. Bruising around the wound site is common.

Alternative Treatment / Investigation

Patient can select either surgical closure or medical therapy.

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: Percutaneous Closure of Atrial Septal Defect (4/2019)

<p>Patient's Label Patient Name: _____ Hospital No: _____ Episode No: _____</p>

Patient's Signature: _____ Date: _____