



Procedure Information Sheet

Introduction

Aortic stenosis (AS) is a common heart valve problem associated with heart failure and death. Surgical valve repair or replacement is recommended if AS patients begin to develop symptoms especially shortness of breath. Generally, open heart surgery is the clinically proven treatment option to relieve symptoms and prolong life. If your risk of undergoing open heart surgery is too high due to medical or anatomical reasons and considered inoperable, another treatment option will be the Transcatheter Aortic Valve Implantation (TAVI). This is a new, minimally invasive procedure, in which a bioprosthetic valve is inserted through a catheter and implanted within the diseased native aortic valve. Bioprosthetic valve may reduce the severity of AS. Compared with open heart surgery, the complications and mortality rate of TAVI is relatively low and is even suitable for elderly patients. TAVI could be a potential alternative to medical therapy for severe AS patients who are not candidates for open heart surgery.

Indication

Patient with heart valve problem such as aortic stenosis.

The Operation / Procedure

1. The procedure will be performed by cardiologists (and in some occasions, together with cardiothoracic surgeons) in cardiac catheterization centre or hybrid operation theatre under general anaesthesia or controlled Propofol sedation.
2. Electrodes will be adhered on 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 procedure.
3. The delivery catheter is introduced into the femoral artery and threaded up through the vessels into the heart. Vessels in both left and right femoral sites will be used. In some occasions, when femoral access is deemed unsuitable for this procedure, alternative approaches involving mini-thoracotomy or surgical cut-down would be adopted.
4. Doctor may perform Transesophageal Echocardiography (TEE) during the procedure if necessary. This test uses sound waves to take a closer look at the inside structures of the heart. Patient will swallow a thin flexible tube with a special tip. This tube sits in the esophagus (the tube that connects the mouth to the stomach). The special tip of the tube sends out sound waves (ultrasound) that echo within the chest wall. The esophagus is located behind the heart so these echoes are picked up and create a picture of the heart that is displayed on a video monitor. The pictures will allow doctor to take a closer look at the valve.
5. After doctor has taken a look at the valve, a balloon valvuloplasty will be performed. Balloon valvuloplasty is a procedure used to widen a stiff or narrowed heart valve. A wire and catheter (a thin tube) are guided by x-rays through the heart and positioned through the diseased heart valve. A balloon is placed over the wire and inflated, enlarging the opening through the diseased valve allowing the bioprosthetic valve to be placed.
6. The femoral arterial access site would be closed by designed vascular closure devices after the procedure.
7. After device implantation, patients would be prescribed with double anti-platelets (Aspirin and Clopidogrel) for initial 3-months and then Aspirin alone indefinitely. Echocardiography would be performed at 3 to 6 months after the procedure to assess the severity of aortic valve narrowing.
8. A temporary pacing wire would be inserted through neck or groin veins during the procedure to support the operation. Permanent pacemaker may be required if patient develop severe bradycardia after the operation.

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



Before the Operation / Procedure

1. Doctor will review patient's medical record, history and current medications. Echocardiogram (TTE) will be performed to assess and confirm the anatomy and functional significance of the aortic stenosis, to see whether patient is feasible for TAVI.
2. Before the procedure, clinical staff will conduct electrocardiogram, chest X-ray, blood tests, CT scan or coronary angiography for patient, to confirm the suitability to undergo the procedure.
3. Doctor will explain the benefit, details of procedure, possible risk and complications of this procedure. Patient need to sign an informed consent.
4. Before the procedure, doctor will prescribe two anti-platelet medications for patient to prevent blood clotting formation. Patient will be given antibiotic to decrease the chance of developing infection on date of procedure.
5. Anticoagulant or Metformin (for diabetes) may have to be stopped several days before the procedure. Drugs such as steroid may be prescribed as prophylaxis for allergy.
6. 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 sites.
7. 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.

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 your 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 your hand.
4. Should inform nurse if patient feels any discomfort in particularly chest discomfort or blood oozing is found from the wound site.
5. Once diet is resumed, please take more fluid to help eliminate contrast by passing urine.
6. Please follow instruction for the use of medications.
7. Usually can be discharged 5-7 days after the procedure.
8. 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.
9. 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.
10. 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. There is a small risk about 0.5-1% of respiratory depression, low blood pressure or heart rate associated with general anaesthesia or propofol use.
2. There is a small risk regarding TEE (less than 0.5% esophageal rupture or aspiration) but the test would be necessary in most patients to have clear look of aortic valve, to guide the operation and to monitor development of severe complications.
3. The procedure is associated with considerable morbidities (about 15% vascular complications or bradycardia and 5% major stroke) and mortality (about 10% death rate at 30-day follow up). The procedure may still be worthwhile because more than half of the symptomatic severe AS patients will die within two years if no treatment is given.

Patient's Label

Patient Name: _____

Hospital No: _____

Episode No: _____



Alternative Treatment / Investigation

Patient can select either open heart surgery 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: Transcatheter Aortic Valve Implantation (4/2019)

Patient's Signature: _____ Date: _____

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