



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). Arrhythmias with fast heart rate can cause syncope, heart failure or occasionally cardiac death. It may be necessary to stop arrhythmias as soon as possible. Direct current cardioversion (DCV) is the conversion of arrhythmias with fast heart rate to normal rhythm with the use of electric shock. Depending on the situation, it may be used as an elective or emergency procedure. Depending on the type and duration of arrhythmia, the amount of energy used and successful rate may be different. If you refuse this procedure, the effect of arrhythmia may be detrimental or even fatal, especially in emergency situation.

Indication

DCV can quickly abolish arrhythmias to resume a normal rhythm. Common indications are atrial fibrillation, atrial flutter, supraventricular tachycardia and ventricular tachycardia.

The Operation / Procedure

1. This invasive procedure is performed at bedside or in a cardiac catheterization centre.
2. Electrodes are adhered to the chest to monitor the heart rate and rhythm. Blood oxygen monitor through finger will be set up.
3. Two electrode pads are placed on the chest wall, either both on the front or one on the front and the other on the back.
4. Patient will be sedated with medications and oxygen supplement may be given.
5. A pulse of electric current is delivered through these pads to the chest. The amount of energy used depends upon the type of arrhythmia to be cardioverted. Patient may experience pain during the electric shock.
6. If the initial shock fails to terminate the arrhythmia, the energy may need to be stepped up or electrodes may be repositioned.
7. In case of immediate recurrence of arrhythmia, the procedure may be repeated.

Before the Operation / Procedure

1. In elective case, some preliminary tests including electrocardiogram, chest X-ray and blood tests will be done in a ward or a clinic. A trans-esophageal echocardiogram may be performed before DCV. Fasting for 4-6 hours is necessary before DCV.
2. In emergency DCV, the preparatory work mentioned above may not apply.
3. In elective DCV, Doctor will explain the risks, benefits and procedure of DCV. Patient needs to sign an informed consent.
4. An IV infusion will be set up.

After the Operation / Procedure

1. After the procedure, patient will be kept on close monitoring in the ward.
2. Oral diet may be resumed when fully conscious.
3. Patient may feel mild pain or discomfort on the chest for a few days after the procedure.
4. Patient may need to take blood thinning drug for 4 weeks after DCV.

Patient's Label

Patient Name: _____

Hospital No: _____

Episode No: _____



Risk and Complications

1. The procedure carries certain risks.
2. Complications include transient low blood pressure, stroke, transient arrhythmias, pulmonary edema and painful skin burns.
3. DCV of atrial fibrillation and atrial flutter may trigger dislodgement of any undetected existing blood clot inside the heart and the stroke risk is high (5.3%). Use of blood thinning drug before and after DCV reduces the risk to 0.8%. Alternatively, before DCV, trans-esophageal echocardiogram can be used to exclude any existing blood clot in the heart.

Alternative Treatment / Investigation

Alternative treatments include anti-arrhythmic drugs and radio-frequency catheter ablation of the arrhythmogenic substrate.

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: Direct Current Cardioversion (4/2019)

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

Patient's Signature: _____ Date: _____