

Cardiac Ablation: The Importance, Advantages and Disadvantages

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Abstract

Cardiac ablation may be a procedure to scar or destroy tissue in your heart that's allowing incorrect electrical signals to cause an abnormal cardiac rhythm. Diagnostic catheters are threaded through blood vessels to your heart where they're wont to map your heart's electrical signals.

Catheter ablation involves advancing several flexible catheters into the patient's blood vessels, usually either in the femoral vein, internal jugular vein, or subclavian vein. The catheters are then advanced towards the heart. Electrical impulses are then used to induce the arrhythmia and local heating or freezing is used to ablate (destroy) the abnormal tissue that is causing it. Originally, a DC impulse was used to create lesions in the intra-cardiac conduction system. However, due to a high incidence of complications, widespread use was never achieved. Newer procedures allow for the terminating of diseased or dying tissue to reduce the chance of arrhythmia.

Catheter ablation is usually performed by an electrophysiologist (a specially trained cardiologist) in a cath lab or a specialized EP lab.

Keywords: Cardiac rhythm, Blood vessels, Heart

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Introduction

Types of Cardiac Ablation

There are two ways your doctor can do ablation. Catheter ablation is that the more common procedure.

Types of cardiac catheter ablation

To report on our hospital's experience with SGLT2 inhibitor-associated euglycemic DKA in five patients with non-T1D and provide evidence for a relationship between early case detection and rapid resolution of acidemia.

Radiofrequency ablation: The doctor uses catheters to send radiofrequency energy (similar to microwave heat) that creates circular scars around each vein or group of veins.

Cryoablation: one catheter sends a balloon tipped with a cloth that freezes the tissues to cause a scar.

Types of cardiac surgical ablation

Surgical ablation involves cutting into your chest. There are three main kinds:

Maze procedure: Your doctor will usually do that while you're having open operation for an additional problem, sort of a bypass or valve replacement. they create small cuts within the upper a part of your heart and stitch them together to make the connective tissue that stops unusual signals.

Mini maze: most of the people with AFib don't need open operation. That's where this less invasive type comes in. Your doctor makes several small cuts between your ribs and uses a camera to try to to catheter ablation. Some hospitals offer robotic-assisted surgery that uses smaller cuts and makes the procedure more precise. Your doctor will put a video camera or tiny robot into your chest. It'll guide the creation of connective tissue which will help keep your heartbeat at the proper pace.

Convergent procedure: This pairs catheter ablation with a mini maze. The doctor uses radiofrequency ablation within the vena pulmonalis, and a surgeon makes a little cut under your breastbone to use radiofrequency energy on the surface of your heart.

Risks of Cardiac Ablation

Any procedure has risks. Problems with cardiac ablation can include:

- Bleeding or infection where the catheter went in
- Damaged blood vessels if the catheter scrapes them
- Arrhythmias caused by damage to your heart's electrical system
- Blood clots in your legs or lungs

- Stroke or attack
- Heart damage, like punctures or damaged valves
- Narrowing of the veins between your lungs and heart
- Kidney damage from the dye
- Radiation
- Death

Benefits of Ablation

If you don't treat AFib, your odds of blood clots, coronary failure, or a stroke go up. These might be life-threatening. The doctor will take your risk factors under consideration before they suggest a treatment. If you've got no symptoms or if they're mild, the doctor may watch and wait. But they could prescribe warfarin or another blood thinner to guard you from strokes. Cardiac ablation could also be right for you if AFib symptoms are more severe and make it hard to try to do daily tasks.

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