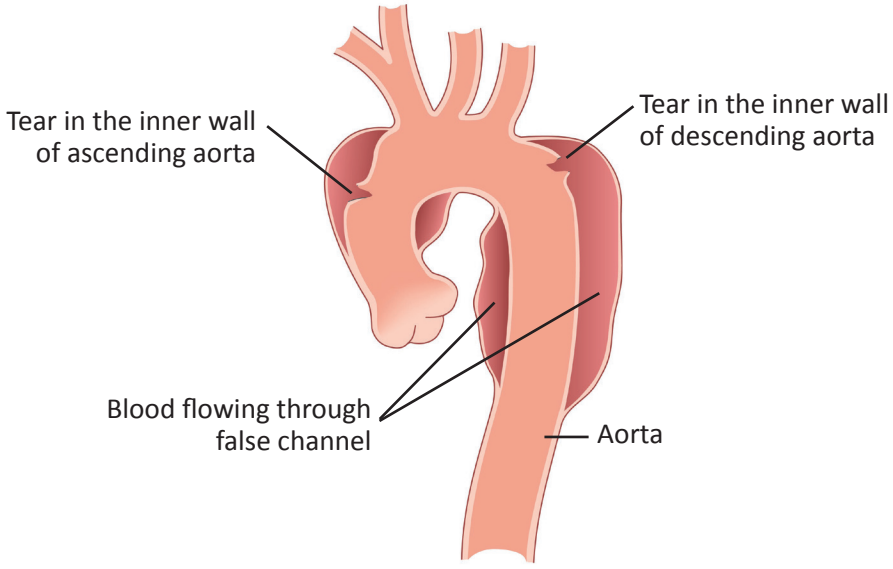
Aortic Dissection

The aorta is the largest artery in the body. It carries blood from the heart to all parts of the body. The wall of the aorta is made of 3 layers. An aortic dissection occurs when the innermost layer of the wall tears and separates from the other layers (Figure 1). This allows blood to enter between the layers of the wall, creating an abnormal "false" channel through which the blood travels.

If you have any questions, ask your physician or nurse.

Figure 1. Aortic dissection



An aortic dissection can have serious consequences. It can cause the aorta to get larger or bulge (aneurysm). It can also cause less blood to flow to the vessels that branch off the aorta to your intestines, kidneys, spinal cord and/or legs. This can cause damage to those organs and parts of your body.

A dissection can occur suddenly (acute) or be present for years (chronic).

Symptoms of an aortic dissection

Symptoms of an acute aortic dissection usually include severe chest and/or back pain between the shoulder blades. If you have these symptoms, you should seek emergency care. Once the acute dissection is managed, these symptoms will go away. Aortic dissections may develop without any symptoms, but this is not common.

Risk factors

The most common risk factors are:

- Smoking history (past or present)
- Drug abuse
- High blood pressure (hypertension)
- High cholesterol (hypercholesterolemia)
- Bicuspid aortic valve (inherited disease of the aortic valve)
- Connective tissue disease, such as Marfan syndrome

Diagnosis and management

An aortic dissection in the acute phase can be diagnosed by a computed tomography (CT) scan with IV contrast dye or an advanced magnetic resonance imaging (MRI) study. Sometimes, patients may have a dissection that is found on an echocardiogram. If so, a CT scan or MRI will be done to view the dissection in more detail. Once the dissection enters a chronic phase, your physician will monitor it with imaging scans at various times. They will check for any changes in the size of the aorta or the extent of the dissection. Once there is a dissection in the aorta, there is a risk for further tearing or for the aorta to dilate (bulge). Regular imaging is especially important.

Treatment

Treatment options for aortic dissections vary. They may include:

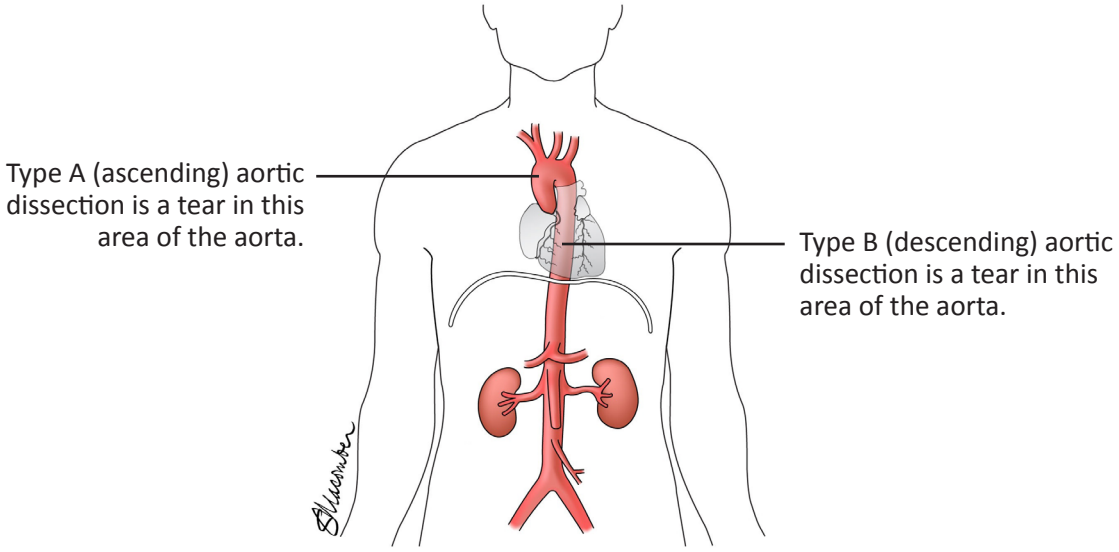
- Medications
- Open surgery (incision through the chest)
- Endovascular surgery (through the artery)
- A combination of open and endovascular surgery (hybrid approach)

The right treatment option for you depends mostly upon your symptoms and the location of the dissection.

Type A (ascending) aortic dissections are found in the beginning of the aorta right next to the heart (Figure 2). These dissections are typically considered surgical emergencies because they can quickly lead to conditions such as stroke, heart attack or cardiac arrest. Patients with a type A dissection typically need immediate open surgery.

Type B (descending) aortic dissections can occur anywhere else in the aorta, although they are usually in the chest (Figure 2). It is common to have a type B dissection even after surgery for a type A dissection. Most patients with a type B dissection need their blood pressure controlled. Most often, blood pressure control itself will relieve the pain and decrease the risk of other complications related to the dissection.

Figure 2. Types of aortic dissection



Patients with acute type B dissections sometimes need surgical treatment if any of the following occur:

- Pain that does not go away despite blood pressure control
- Poor blood flow to the organs in the abdomen, such as kidneys or intestines
- Poor blood flow to the legs

Some patients with aortic dissections will eventually need surgery if their aorta enlarges or if new symptoms appear. The timing of the operation and the best surgical method will vary for every person.

We encourage you to discuss questions or concerns you have with your cardiologist or surgeon.

For more information about Northwestern Medicine, please visit our website at nm.org.
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