

Aortic Dissection

Written by Bonner Law | JUNE 27, 2023 | MEDICAL MALPRACTICE

The aorta is the largest and main artery of the human body. The wall of the aorta is made up of three layers: (1) the inner layer (intima), (2) the middle layer (media), and (3) the outer layer (adventitia). It extends from the base of the neck, down through the chest and abdomen, and branches off to two other arteries—the right and left common iliac arteries—just below the navel. The aorta pumps blood away from the heart and delivers oxygen-rich blood to the rest of the body.

An aortic dissection is a life-threatening medical emergency that requires immediate attention and treatment. It begins when a tear occurs in the inner layer of the aortic wall. Blood then surges through the tear, causing the inner and middle layers to separate or “dissect” and creates a bulge and weakness in that area of the aorta. As the blood is diverted between the layers, the normal blood flow to parts of the body may be slowed or stopped—meaning less oxygen is being delivered to those areas which can be vital organs like the brain, kidneys, or heart. If the blood tears through the outside layer of the aorta, the aorta may rupture completely and is often deadly.

Types of Aortic Dissection

There are two types of aortic dissection: (1) Type A, and (2) Type B. These two types refer to which part or area of the aorta is affected.

Type A: Type A aortic dissections involve a tear in the upper (“ascending”) aorta—the part of the aorta where it exits the heart. The tear may begin in the upper aorta and extend through the entire length of the aorta into the abdomen. Type A aortic dissections are more common than Type B, but can also be more dangerous.

Type B: Type B aortic dissections involve a tear farther down in the lower (“descending”) aorta. Like Type A aortic dissections, these may also extend into the abdomen, but Type B aortic dissections do not involve the upper part of the aorta around the heart.

Type A aortic dissection is nearly two times more common than Type B. This is because tears in the aorta typically occur in areas where stress on the wall of the aorta is highest, and Type A aortic dissection occurs in the ascending aorta where the pressure is the highest.

Symptoms

Aortic dissection symptoms may be similar to those of a heart attack or pulmonary embolism. However, the most common characteristic of aortic dissection is that the onset is abrupt and sudden—typically producing severe pain almost instantaneously. Common symptoms include the following:

- Sudden severe chest or upper back pain—often described as a tearing or ripping sensation—that spreads to the neck or down the back.
- Sudden severe stomach or abdominal pain
- Shortness of breath
- Loss of consciousness or dizziness
- Rapid, weak pulse (usually in one arm or thigh compared to the other)
- Low blood pressure—especially with a 20mmHg pressure difference between arms.
- Heavy sweating
- Symptoms similar to those of a stroke (sudden vision loss, difficulty speaking, and weakness or paralysis on one side of the body)

Approximately 40% of people who suffer an aortic dissection die immediately from a complete rupture. The risk of death can increase by as much as 3% each hour that the condition remains untreated, which is why immediate

recognition and treatment are crucial. If you experience any symptoms of an aortic dissection, you should immediately call 911 and seek emergency care.

Causes

Aortic dissection is caused by a weakened area of the aortic wall—typically due to an underlying, slow breakdown of the cells that make up the wall. This breakdown of the aortic wall can occur silently for many years before the wall finally tears.

Aortic dissection is relatively uncommon, but typically occurs in men in their 60s and 70s. Aortic dissections are most often caused by an underlying vulnerability that may be inherited, but may also be due to stress on the aortic wall from constant high blood pressure in susceptible people. Ongoing high blood pressure (hypertension) is the most important risk factor as it causes direct damage to the layers of the aortic tissue. Some other factors that may raise the risk of aortic dissection include the following:

- Atherosclerosis (a buildup of plaque and hardening in the arteries usually due to high cholesterol and smoking)
- Aortic aneurysms
- Aortic valve disease
- Congenital aortic defects such as bicuspid aortic valve or aortic coarctation
- Certain genetic diseases or connective tissue disorders such as Turner Syndrome, Marfan Syndrome, Ehlers-Danlos Syndrome, Loeys-Dietz Syndrome, or Vasculitis
- Giant cell arteritis (inflammation of the arteries)
- Pregnancy (specifically with high blood pressure during delivery)
- Family history of aortic dissection
- Traumatic injury to the chest
- High-intensity weightlifting or other strenuous resistance training
- Drug use that temporarily raises blood pressure such as the use of cocaine or amphetamines

Prevention

For people who have genetic or congenital conditions that increase their risk of aortic dissection, or who have a family history of aortic dissection, it is important to discuss preventative care with a doctor. A doctor may recommend medications, periodic monitoring and tests, or screenings to assess the risk in these people.

If someone suffers an aortic aneurysm, it is important to discuss treatment options with a doctor to prevent aortic dissection such as potentially necessary surgery to repair the aneurysm or regular monitoring and tests.

Other ways to prevent aortic dissections include preventing chest injuries and taking steps to maintain a healthy heart. This may include wearing a seatbelt, maintaining ideal body weight, quitting smoking, monitoring and controlling blood pressure, taking blood pressure medications as directed, and seeing a doctor for regular check-ups.

Diagnosis

Aortic dissections must be diagnosed quickly. Tests that may be ordered to diagnose an aortic dissection include the following:

- **Chest X-Ray:** This test is not very specific but is quick and may direct the diagnosis.
- **CT Scan:** This test performs the best view of the aorta during an emergency and can be performed rather quickly to look for an aneurysm or dissection. IV contrast may be needed for aortic imaging.
- **Transesophageal Echocardiogram (TEE):** This test provides a more detailed picture of the heart valves and chambers and a better view of the thoracic aorta.
- **Magnetic Resonance Angiogram (MRA) or Imaging (MRI):** These tests create sharper, detailed images of blood vessels or organs inside the body but take more time to perform than a CT scan and are less often used in emergencies.

Treatment

Aortic dissections require immediate treatment. Treatment consists of surgery and medication but depends on the type of dissection and its severity. Surgery includes removing the damaged portion of the aorta and replacing it with a synthetic tube called a "graft" which is used to reconstruct the aorta. Medications are given to reduce heart rate and

lower blood pressure which can prevent the dissection from worsening. Medication may also be given to control blood pressure before surgery.

- Type A dissections require immediate surgery. However, an average of 15% to 30% of people with Type A dissections die after reaching the emergency room even after surgery.
- Type B dissections may also require immediate surgery if the dissection cuts off blood flow to vital organs such as the kidneys, intestines, legs, or spinal cord. Sometimes “stents” may be used instead of grafts to repair more complicated types of Type B dissections. However, less severe cases may be treated with medication initially and delay surgery months, or even years, until complications develop.

Regular, repeat CT or MRI imaging is necessary, usually every three (3) to twelve (12) months, for any individual who survives an aortic dissection. Monitoring the condition of the aorta through regular imaging and appointments with a specialist (i.e., a cardiologist, vascular surgeon, and/or cardiac surgeon) is important to ensure any changes can be caught and acted upon in a safe and timely manner. Additionally, any individual who survives an aortic dissection will be prescribed blood pressure medication (usually beta-blockers) to control their heart rate and blood pressure for the rest of their life.

Filing a Medical Malpractice Claim or Lawsuit

If you or a family member has suffered an aortic dissection that was negligently diagnosed or treated, you may be entitled to compensation for your damages. Call Bonner Law at 1-800-4MEDMAL or visit [our page](#) for a free consultation.

Medical malpractice cases are complex and can be emotionally challenging for the patients involved. Finding the right attorney can make the process much easier. Michael P. Bonner has over 30 years of experience representing patients in medical malpractice cases all over Florida. Bonner Law has the knowledge and experience to represent you and navigate the legal and medical landscape to ensure that you receive compensation for damages, including medical bills, lost wages, and pain and suffering that you are entitled to. For more information on medical malpractice claims you can also visit our [Medical Malpractice](#) page.

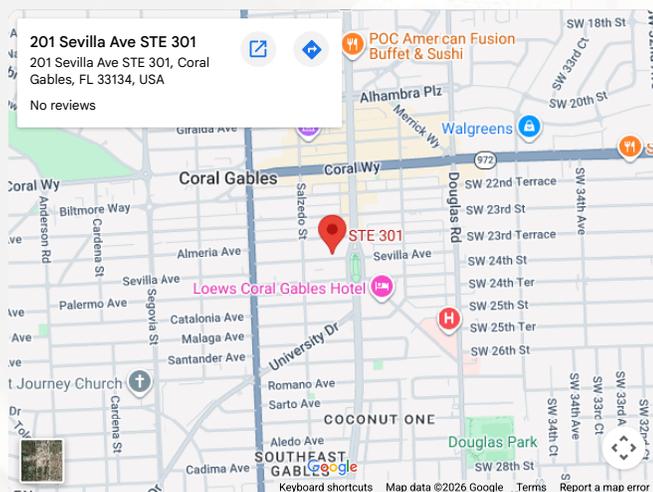
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