

Chapter 1 : Aneurysm | Legal Seeker

A brain aneurysm is a bulge that forms in the blood vessel of your brain that could lead to severe health issues and possibly death. But most brain aneurysms don't cause any symptoms, and only a.

An abdominal aortic aneurysm is an enlarged area in the lower part of the aorta, the major blood vessel that supplies blood to the body. The aorta, about the thickness of a garden hose, runs from your heart through the center of your chest and abdomen. Depending on the size and the rate at which your abdominal aortic aneurysm is growing, treatment may vary from watchful waiting to emergency surgery. Emergency surgery for a ruptured abdominal aortic aneurysm can be risky. Symptoms Abdominal aortic aneurysms often grow slowly and usually without symptoms, making them difficult to detect. Some aneurysms will never rupture. Many start small and stay small, although many expand over time. Predicting how fast an abdominal aortic aneurysm may enlarge is difficult. As an abdominal aortic aneurysm enlarges, some people may notice: A pulsating feeling near the navel Deep, constant pain in your abdomen or on the side of your abdomen Back pain If you have any of these signs and symptoms, such as sudden severe back or abdominal pain, get immediate emergency help. When to see a doctor You should see your doctor if you have any of the symptoms listed above. The recommendations below are for those who have no symptoms. Because being male and smoking significantly increase the risk of abdominal aortic aneurysm, men ages 65 to 75 who have ever smoked cigarettes should have a screening for abdominal aortic aneurysms using abdominal ultrasound. If you are a man between ages 65 and 75 and you have never smoked, your doctor will decide on the need for an abdominal ultrasound, usually based on other risk factors, such as a family history of aneurysm. Those with a family history of aneurysm may have an ultrasound at age Ask your doctor if you need to have an ultrasound screening based on your risk factors. Although the exact cause of abdominal aortic aneurysms is unknown, a number of factors may play a role, including: Cigarette smoking and other forms of tobacco use appear to increase your risk of aortic aneurysms. Hardening of the arteries atherosclerosis. Atherosclerosis occurs when fat and other substances build up on the lining of a blood vessel. This condition may increase your risk of an aneurysm. Blood vessel diseases in the aorta. Abdominal aortic aneurysms can be caused by diseases that cause blood vessels to become inflamed. Infection in the aorta. Infections, such as a bacterial or fungal infection, may rarely cause abdominal aortic aneurysms. Trauma, such as being in a car accident, can cause abdominal aortic aneurysms. In some cases, abdominal aortic aneurysms could be hereditary. Aneurysms can develop anywhere along the aorta, but when they occur in the upper part of the aorta, in the chest, they are called thoracic aortic aneurysms. More commonly, aneurysms form in the lower part of your aorta and are called abdominal aortic aneurysms. These aneurysms may also be referred to as AAA. Risk factors Abdominal aortic aneurysm risk factors include: Abdominal aortic aneurysms occur most often in people age 65 and older. Tobacco use is a strong risk factor for the development of an abdominal aortic aneurysm and a higher risk of rupture. Men develop abdominal aortic aneurysms much more often than women do. People who are white are at higher risk of abdominal aortic aneurysms. People who have a family history of abdominal aortic aneurysms are at increased risk of having the condition. Atherosclerosis â€” the buildup of fat and other substances that can damage the lining of a blood vessel â€” increases your risk of an aneurysm. People who have an aneurysm in another large blood vessel, such as the artery behind the knee or the thoracic aorta in the chest, may have a higher risk of developing an abdominal aortic aneurysm. High blood pressure may increase your risk of developing an abdominal aortic aneurysm. Complications Tears in one or more of the layers of the wall of the aorta aortic dissection or a ruptured aortic aneurysm are the main complications of abdominal aortic aneurysms. A ruptured aortic aneurysm can lead to life-threatening internal bleeding. In general, the larger the aneurysm and the faster the aneurysm grows, the greater the risk of rupture. Signs and symptoms that your aortic aneurysm has ruptured may include: Sudden, intense and persistent abdominal or back pain, which can be described as a tearing sensation Pain that radiates to your back or legs Sweating.

Chapter 2 : Thoracic Aortic Aneurysm Surgery | Cleveland Clinic: Health Library

An aneurysm is a weakening and bulging of an artery wall. Many have no symptoms and are not dangerous. However, at their most severe, aneurysms can lead to life-threatening internal bleeding.

Minus Related Pages An aortic aneurysm is a balloon-like bulge in the aorta, the large artery that carries blood from the heart through the chest and torso. On the right, Figure A shows a normal aorta. Figure B shows a thoracic aortic aneurysm located behind the heart. Figure C shows an abdominal aortic aneurysm located below the arteries that supply blood to the kidneys. The force of blood pumping can split the layers of the artery wall, allowing blood to leak in between them. This process is called a dissection. The aneurysm can burst completely, causing bleeding inside the body. This is called a rupture. Dissections and ruptures are the cause of most deaths from aortic aneurysms. Aortic Aneurysm in the United States Aortic aneurysms were the primary cause of 9, deaths in and a contributing cause in more than 17, deaths in the United States in Preventive Services Task Force recommends that men aged 65–75 years who have ever smoked should get an ultrasound screening for abdominal aortic aneurysms, even if they have no symptoms. Men and women are equally likely to get thoracic aortic aneurysms, which become more common with increasing age. Sometimes people with inherited connective tissue disorders, such as Marfan syndrome and Ehlers-Danlos syndrome, get thoracic aortic aneurysms. Signs and symptoms of thoracic aortic aneurysm can include Sharp, sudden pain in the chest or upper back. Trouble breathing or swallowing. Abdominal Aortic Aneurysms An abdominal aortic aneurysm occurs below the chest. Abdominal aortic aneurysms happen more often than thoracic aortic aneurysms. Abdominal aortic aneurysms are more common in men and among people aged 65 years and older. Abdominal aortic aneurysms are less common among blacks compared with whites. If an individual does have symptoms, they can include Throbbing or deep pain in your back or side. Pain in the buttocks, groin, or legs. Other Types of Aneurysms Aneurysms can occur in other parts of your body. A ruptured aneurysm in the brain can cause a stroke. Peripheral aneurysms—those found in arteries other than the aorta—can occur in the neck, in the groin, or behind the knees. These aneurysms are less likely to rupture or dissect than aortic aneurysms, but they can form blood clots. These clots can break away and block blood flow through the artery. Risk Factors for Aortic Aneurysm Diseases that damage your heart and blood vessels also increase your risk for aortic aneurysm.

Chapter 3 : Abdominal aortic aneurysm - Wikipedia

An aortic aneurysm is a balloon-like bulge in the aorta, the large artery that carries blood from the heart through the chest and torso. On the right, Figure A shows a normal aorta. Figure B shows a thoracic aortic aneurysm located behind the heart. Figure C shows an abdominal aortic aneurysm.

The majority of these approaches involve the numerical analysis of AAAs using the common engineering technique of the finite element method FEM to determine the wall stress distributions. Recent reports have shown that these stress distributions have been shown to correlate to the overall geometry of the AAA rather than solely to the maximum diameter. In light of this, rupture assessment may be more accurate if both the patient-specific wall stress is coupled together with patient-specific wall strength. A non-invasive method of determining patient-dependent wall strength was recently reported, [64] with more traditional approaches to strength determination via tensile testing performed by other researchers in the field. The frequency is much higher in smokers than in non-smokers [8]. However, attempts to treat the AAA surgically were unsuccessful until 1809. In that year, Rudolph Matas who also proposed the concept of endoaneurysmorrhaphy, performed the first successful aortic ligation on a human. Endovascular aneurysm repair was first performed in the late 1980s and has been widely adopted in the subsequent decades. Endovascular repair was first used for treating a ruptured aneurysm in Nottingham in 1991. He declined surgery, saying, "I want to go when I want. It is tasteless to prolong life artificially. I have done my share, it is time to go. I will do it elegantly. At the time of her death, she was in Cedars-Sinai Medical Center recovering from emergency surgery performed just six days earlier because of a dissecting aortic aneurysm near her heart. Ball was at increased risk, as she had been a heavy smoker for decades. Scott died in from a ruptured abdominal aortic aneurysm at age 85. In former presidential candidate Bob Dole underwent surgery for an abdominal aortic aneurysm in which a team led by vascular surgeon Kenneth Ouriel inserted a stent graft: The Next Generation, died from an abdominal aneurysm on August 8, 2006, just one day shy of his 42nd birthday. His father also died from the same cause when Robert was a child. Risk assessment[edit] There have been many calls for alternative approaches to rupture risk assessment over the past number of years, with many believing that a biomechanics-based approach may be more suitable than the current diameter approach. Numerical modeling is a valuable tool to researchers allowing approximate wall stresses to be calculated, thus revealing the rupture potential of a particular aneurysm. Experimental models are required to validate these numerical results and provide a further insight into the biomechanical behavior of the AAA. In vivo, AAAs exhibit a varying range of material strengths [88] from localised weak hypoxic regions [89] to much stronger regions and areas of calcifications. By eliminating the gene for a signaling protein called cyclophilin A CypA from a strain of mice, researchers were able to provide complete protection against abdominal aortic aneurysm. Elimination of this enzyme in mice models both slowed the progression of aneurysms and improved survival.

Chapter 4 : Aortic Aneurysm Fact Sheet|Data & Statistics|DHDS|CDC

Aneurysms in the chest cavity are called thoracic aortic aneurysms. Abdominal aortic aneurysms are the most common type. In rare cases, both the chest and abdomen can be affected by arterial damage.

Pathophysiology[edit] Aneurysms form for a variety of interacting reasons. Multiple factors, including factors affecting a blood vessel wall and the blood through the vessel, contribute. A variety of different factors, including atherosclerosis , may contribute to weakening of a blood vessel wall. The repeated trauma of blood flowing through the vessel may contribute to degeneration[clarification needed] of the vessel wall. Hypertensive injury may compound this degeneration and accelerate the expansion of the aneurysm. As the aneurysm expands, the wall tension increases. Without treatment, these aneurysms will ultimately progress and rupture. A mycotic aneurysm is an aneurysm that results from an infectious process that involves the arterial wall. The most common locations include arteries in the abdomen, thigh, neck, and arm. A mycotic aneurysm can result in sepsis, or life-threatening bleeding if the aneurysm ruptures. The third stage of syphilis also manifests as aneurysm of the aorta , which is due to loss of the vasa vasorum in the tunica adventitia. A minority of aneurysms are caused by copper deficiency , which results in a decreased activity of the lysyl oxidase enzyme , affecting elastin , a key component in vessel walls [24] [25] [26] Copper deficiency results in vessel wall thinning, [27] and thus has been noted as a cause of death in copper-deficient humans, [28] chickens and turkeys [29] Diagnosis[edit] Ruptured 7mm left vertebral artery aneurysm resulting in a subarachnoid hemorrhage as seen on a CT scan with contrast Diagnosis of a ruptured cerebral aneurysm is commonly made by finding signs of subarachnoid hemorrhage on a computed tomography CT scan. If the CT scan is negative but a ruptured aneurysm is still suspected based on clinical findings, a lumbar puncture can be performed to detect blood in the cerebrospinal fluid. Computed tomography angiography CTA is an alternative to traditional angiography and can be performed without the need for arterial catheterization. This test combines a regular CT scan with a contrast dye injected into a vein. Once the dye is injected into a vein, it travels to the cerebral arteries, and images are created using a CT scan. These images show exactly how blood flows into the brain arteries. At least, in case of Abdominal Aortic Aneurysm AAA the decision does not come without a significant risk and cost, hence, there is a great interest in identifying more advanced decision making approaches that are not solely based on the AAA diameter, but involve other geometrical and mechanical nuances such as local thickness and wall stress. Aneurysm clips are used for surgical procedure i. Cerebral aneurysm treatment There are currently two treatment options for brain aneurysms: There is currently debate in the medical literature about which treatment is most appropriate given particular situations. It consists of a craniotomy to expose the aneurysm and closing the base or neck of the aneurysm with a clip. The surgical technique has been modified and improved over the years. It consists of passing a catheter into the femoral artery in the groin, through the aorta, into the brain arteries, and finally into the aneurysm itself. Platinum coils initiate a clotting reaction within the aneurysm that, if successful, fills the aneurysm dome and prevents its rupture. Instead of sewing, the graft tube ends, made rigid and expandable by nitinol wireframe, can be easily inserted in its reduced diameter into the vascular stumps and then expanded up to the most appropriate diameter and permanently fixed there by external ligature. Renal aneurysms[edit] Renal aneurysms are very rare consisting of only 0. If symptoms occur, or enlargement of the aneurysm, then endovascular or open repair should be considered. They are most prevalent in people ages 35 to 60, but can occur in children as well. Aneurysms are rare in children with a reported prevalence of . The most common incidence are among year-olds, and there are typically no warning signs. Most aneurysms develop after the age of The mortality rate for pediatric aneurysms is lower than in adults.

Chapter 5 : Intracranial Aneurysms Guide: Causes, Symptoms and Treatment Options

This is a case study of a patient with an aortic aneurysm in the chest (thoracic aortic aneurysm) who was successfully treated with an endovascular aortic stent.

Prevention An aneurysm is the enlargement of an artery caused by weakness in the arterial wall. Often there are no symptoms, but a ruptured aneurysm can lead to fatal complications. An aneurysm refers to a weakening of an artery wall that creates a bulge, or distention, of the artery. Most aneurysms do not show symptoms and are not dangerous. However, at their most severe stage, some can rupture, leading to life-threatening internal bleeding. Around 30, brain aneurysms rupture in the U. An estimated 40 percent of these cases cause death within 24 hours. **Fast facts on aneurysms** Aneurysms affect a variety of arteries. The most significant aneurysms affect the arteries supplying the brain and the heart. The rupture of an aneurysm causes internal bleeding. The risk of an aneurysm developing and rupturing varies between individuals. Smoking and high blood pressure are major risk factors for the development of an aneurysm. Some types of aneurysm may need surgical treatment to prevent rupture. Doctors will only operate on others if they are life-threatening. **Types** The rupture of an aneurysm can be fatal. Aneurysms are classified by their location in the body. The arteries of the brain and heart are the two most common sites of a serious aneurysm. The bulge can take two main shapes: **Fusiform aneurysms** bulge all sides of a blood vessel **Saccular aneurysms** bulge only on one side The risk of rupture depends on the size of the bulge. **Aortic aneurysm** The aorta is the large artery that begins at the left ventricle of the heart and passes through the chest and abdominal cavities. The normal diameter of the aorta is between 2 and 3 centimeters cm but can bulge to beyond 5 cm with an aneurysm. The most common aneurysm of the aorta is an abdominal aortic aneurysm AAA. This occurs in the part of the aorta that runs through the abdomen. Without surgery, the annual survival rate for an AAA of over 6 cm is 20 percent. AAA can rapidly become fatal, but those that survive the transfer to a hospital have a 50 percent chance of overall survival. Less commonly, a thoracic aortic aneurysm TAA can affect the part of the aorta running through the chest. TAA has a survival rate of 56 percent without treatment and 85 percent following surgery. It is a rare condition, as only 25 percent of aortic aneurysms occur in the chest. **Cerebral aneurysm** Aneurysms of the arteries that supply the brain with blood are known as intracranial aneurysms. Due to their appearance, they are also known as "berry" aneurysms. A ruptured aneurysm of the brain can be fatal within 24 hours. Forty percent of brain aneurysms are fatal, and around 66 percent of those who survive will experience a resulting neurological impairment or disability. Ruptured cerebral aneurysms are the most common cause of a type of stroke known as subarachnoid hemorrhage SAH. **Peripheral aneurysm** An aneurysm can also occur in a peripheral artery. **Types of peripheral aneurysm include:** **Baker's aneurysm** This happens behind the knee. It is the most common peripheral aneurysm. **Splenic aneurysm** This type of aneurysm occurs near the spleen. This affects the artery that transports blood to the intestines. **Femoral aneurysm** The femoral artery is in the groin. **Renal aneurysm** This occurs in the neck. This is a bulge of the arteries that supply blood to the bowel or kidneys. **Peripheral aneurysms** are less likely to rupture than aortic aneurysms. **Treatment** Not all cases of unruptured aneurysm need active treatment. When an aneurysm ruptures, however, emergency surgery is needed. **Aortic aneurysm treatment options** The doctor may monitor an unruptured aortic aneurysm, if no symptoms are evident. Medications and preventive measures may form part of conservative management, or they may accompany active surgical treatment. A ruptured aneurysm needs emergency surgery. Without immediate repair, patients have a low chance of survival. The decision to operate on an unruptured aneurysm in the aorta depends on a number of factors related to the individual patient and features of the aneurysm. There are two options for surgery: **Endovascular surgery** In endovascular surgery, the surgeon accesses the blood vessels through a small incision near the hip. **Stent-graft surgery** inserts an endovascular graft through this incision using a catheter. The graft is then positioned in the aorta to seal off the aneurysm. **Open AAA repair** In an open AAA repair, a large incision is made in the abdomen to expose the aorta. A graft can then be applied to repair the aneurysm. **Endovascular surgery for the repair of aortic aneurysms carries the following risks:**

Chapter 6 : Aneurysm: Causes, symptoms, and treatments

Abstract. A year-old male presented to a chiropractic clinic with subacute low back pain. While the pain appeared to be mechanical in nature, radiographic evaluation revealed an abdominal aortic aneurysm, which required the patient to have vascular surgery.

Ehlers-Danlos syndrome These are called connective tissue disorders, and they can lead to many complications in addition to aortic aneurysms. Sometimes, certain infections can also weaken artery walls, including those in the aortic arch. These infections include syphilis and salmonella. For example, a chest X-ray can show a bulging aorta. Other imaging tests that can detect an aortic aneurysm include: An echocardiogram , which uses sound waves to create images of the heart. It can also show a change in the aorta. A CT scan , which creates layered images of the heart or other internal organ. Sometimes, doctors insert a dye into an artery to reveal possible blood flow problems on the CT scan. It uses a dye injected into your blood vessels to make them easier to see. This test uses a magnetic field and radio waves to create images of the body part being examined. Once an aneurysm is discovered, the decision to treat it usually depends on its size or rate of growth. Usually, surgical repair is necessary once an aneurysm reaches 5 centimeters cm in diameter. Treatment options An aneurysm that is less than 5 cm may be monitored without surgery. Methods of treatment include the following. Watch-and-wait If you and your doctor agree that a watch-and-wait approach is best, you may be placed on medications to help lower your blood pressure and cholesterol. Medications to bring down your blood pressure include beta blockers, which also slow your heart rate, and angiotensin receptor blockers ARBs. Statins are medications that can help lower your LDL cholesterol. Open surgery In this procedure, a surgeon opens up your chest and replaces the damaged portion of your aorta with a synthetic tube called a graft. In some cases, they also replace the aortic valve with a synthetic valve. Endovascular surgery In this procedure, the weakened portion of the aorta remains in place. Your doctor inserts a tiny, flexible catheter into an artery in your leg and guides the tube up to your aorta. The catheter then deploys a graft that surrounds the vulnerable part of the aorta to strengthen it. Emergency surgery Emergency surgery can sometimes be done to repair an aneurysm that ruptures, though it must be done fast. The risk of a fatal bleeding event is high if bleeding is not treated promptly. Open surgery to repair an aneurysm can require a recovery time of about a month. Your age and overall health are also factors that affect your recovery speed. The recovery time for a less-invasive endovascular procedure is shorter than for an open surgery. However, regular monitoring must be done to look for leaks through the graft. Untreated, a rupture can be fatal. Elective surgery to repair an aneurysm has only a 5 percent mortality rate.

Chapter 7 : Abdominal aortic aneurysm - Symptoms and causes - Mayo Clinic

An aneurysm is a localized, abnormal, weak spot on a blood vessel wall that causes an outward bulging, likened to a bubble or balloon. Aneurysms are a result of a weakened blood vessel wall, and may be a result of a hereditary condition or an acquired disease.

What causes an aneurysm? Although the exact cause of an aneurysm is unclear, certain factors contribute to the condition. For example, damaged tissue in the arteries can play a role. The arteries can be harmed by blockages, such as fatty deposits. These deposits can trigger the heart to pump harder than necessary to push blood past the fatty buildup. This stress can damage the arteries because of the increased pressure. Atherosclerotic disease Atherosclerotic disease can also lead to an aneurysm. People with atherosclerotic disease have a form of plaque buildup in their arteries. Plaque is a hard substance that damages the arteries and prevents blood from flowing freely. High blood pressure High blood pressure may also cause an aneurysm. The force of your blood as it travels through your blood vessels is measured by how much pressure it places on your artery walls. If the pressure increases above a normal rate, it may enlarge or weaken the blood vessels. A significantly higher blood pressure can increase the risk for heart, blood vessel, and circulation problems. An aneurysm may occur anywhere in your body, but these are the most common locations of aneurysms: Aorta The aorta is the largest blood vessel in the body. It begins at the left ventricle of the heart and travels down the abdomen where it splits off into both legs. The aorta is a common site for arterial aneurysms. Aneurysms in the chest cavity are called thoracic aortic aneurysms. Abdominal aortic aneurysms are the most common type. In rare cases, both the chest and abdomen can be affected by arterial damage. Brain Aneurysms in the brain can be any size. These often form in the blood vessels that lie deep within the brain. They also may not present any symptoms or signs. You may not even know you have an aneurysm. Brain aneurysms of this type may cause bleeding in as many as 3 percent of people. Other areas You can also have an aneurysm in the artery behind your knee, in your spleen, or in your intestines. What symptoms should I look for? Symptoms of an aneurysm vary with each type and location. Aneurysms that occur near the surface of the body may show signs of swelling and pain. A large mass may also develop. The symptoms of ruptured aneurysms anywhere in the body can include:

Chapter 8 : Aneurysm - Wikipedia

Automobile accidents are also cause for concern, and blunt injury to the abdominal aorta from a car accident has been linked to numerous cases of abdominal aortic aneurysms. This is why prompt diagnosis and surgical following an auto collision are vital to prevent future issues. The United States.

Contact Us A thoracic aortic aneurysm, an abnormal bulge in a weakened wall of the aorta in the chest area, can cause a variety of symptoms and often life-threatening complications. Due to the serious risks it presents, timely diagnosis and treatment of a thoracic aneurysm are critical. Is a thoracic aortic aneurysm serious? Thoracic aortic aneurysms affect about 15, people in the United States each year, and are the 13th leading cause of death. Research has shown that patients with untreated large thoracic aneurysms of the aorta are more likely to die of complications associated with their aneurysms than from any other cause. What is the best treatment for a thoracic aortic aneurysm? The decision on how to best treat a thoracic aneurysm or the aorta depends on its size and rate of its growth, location and your overall health. The risk of rupture increases when the aneurysm is larger than about twice the normal diameter of a healthy aorta blood vessel. Close monitoring of the aneurysm with CT or MRI scans every 6 months Blood pressure medication to control high blood pressure, and decrease pressure on the weakened area of the aneurysm Restriction of some physical activities. Heavy lifting should be avoided due to increased pressure on the aorta, which may put an aneurysm at risk of rupture Surgery The decision to treat a thoracic aneurysm with surgery is determined by many factors, including: For instance, a patient who is over 6 feet tall with a 5 centimeter aneurysm would be recommended for surgery. Yet, a patient who is 5 feet 7 inches with a thoracic aneurysm of 4. Due to highly individualized characteristics guiding the decision for surgery, it is best that a physician closely monitor your thoracic aneurysm on a regular basis. The aorta To understand how surgery is used to treat a thoracic aneurysm, it is best to know where the aorta is located and how it functions. The aorta is shaped like an old-fashioned walking cane with the stem of the curved handle coming out of the heart and curling through the aortic arch, which supplies branches of vessels to the head and arms. Once the aorta descends through the chest cavity into the abdomen, it separates off to provide blood to the abdominal organs and both legs. How is a thoracic aortic aneurysm treated with surgery? The current standard surgical treatment of a thoracic aortic aneurysm is the open-chest approach. The main purpose of open-chest surgery to treat a thoracic aneurysm is to replace the weakened portion of the aorta with a fabric tube, called a graft. Repairing a thoracic aneurysm is surgically complicated and requires an experienced thoracic surgical team. However, neglecting the aneurysm presents a higher risk. Cleveland Clinic surgeons have considerable experience in complex aortic operations, performing over 1, aortic procedures in Procedures include ascending aorta, aortic arch, descending aorta, thoracoabdominal repairs, and thoracic aorta endovascular stent graft procedures. Preoperative evaluation may also include: Thoracic aneurysms occur above the diaphragm, including in the ascending aorta, the aorta arch and the descending thoracic aorta. The location of a thoracic aneurysm determines many factors, including where the incision for surgery is made. If the aneurysm is close to the aortic valve, an incision in the front of the chest median sternotomy may be used. An aneurysm close to the aortic valve may also require the valve to be repaired or replaced. If surgery is needed on the aortic arch, the procedure is approached from the front chest area. A standard incision for an aneurysm in the descending thoracic aorta is made on the left side of the chest left thoracotomy. Repairing a thoracic aneurysm Total aorta repair can be done as one operation in some patients. After making an incision in the chest, your thoracic surgeon will replace the weakened portion of the aorta with a graft. The graft is made of a material that is stronger than the weakened aorta, allowing blood to pass through the vessel without causing a bulge. Many patients who have a thoracic aneurysm may also have heart valve disease, disease of the aorta next to the heart, or extensive aorta disease, leading into the abdomen or other major arteries. For those thoracic aneurysms that are extensive or more complex, heart surgery is sometimes performed at the same time as an open-chest aneurysm repair. In addition, thoracic surgeons may work along side vascular surgeons to complete a complex procedure involving the entire aorta or peripheral blood vessels. The standard surgical treatment for thoracic aneurysms is open-chest aneurysm repair, but

Cleveland Clinic surgeons are now able to treat some thoracic and thoracoabdominal aneurysms with a promising, newer procedure called an endovascular stent. Endovascular means that surgery is performed inside your body using thin, long tubes called catheters. By entering through small incisions in the groin, the catheters guide a stent graft through the blood vessels to the site of the aneurysm. While endovascular stents are only used in limited cases, this type of repair is being evaluated for optimal use. What are the risks of thoracic aortic aneurysm surgery? The risks involved with repairing a thoracic aneurysm depend on the extent of the repair required, the length of surgery and on your overall general health. Your surgeon will talk with you about the possible risks and benefits of the procedure. In , mortality for thoracic aortic procedures declined to 3. Complications after thoracic aneurysm surgery may include:

Chapter 9 : Thoracic Aortic Aneurysm | Society for Vascular Surgery

A brain aneurysm is a bulging area within the wall of an artery that supplies the brain. In most cases, brain aneurysms do not produce symptoms. In some cases, the aneurysm may cause symptoms by pushing on other areas of the brain.

Publicationdate November 1, This article is based on a presentation given by Jay Heiken and adapted for the Radiology Assistant by Robin Smithuis. The classical findings in aortic aneurysm rupture are well known. In this article we will present the more subtle findings of contained leak and pending rupture of aortic aneurysm. Primary signs of Aortic Aneurysm rupture Aortic aneurysm rupture is the most important diagnosis you want to be able to exclude in patients with acute abdominal pain especially when they present with back or flank pain. The primary signs of AAA rupture are periaortic stranding, retroperitoneal hematoma and extravasation of iv. In the image on the far left we only see a little bit of peripheral soft tissue density adjacent to the aneurysm and indeed this is a sign that this patient is at risk for frank rupture. The other two cases show retroperitoneal hematoma and contrast leakage outside the aorta, which makes it easier to diagnose. On the left a classical case in a patient with an aneurysm of the abdominal aorta and a large hyperdense retroperitoneal hematoma due to rupture. The majority of these cases show posterior periaortic hemorrhage and in cases of massive hemorrhage, the posterior pararenal and perirenal compartments are the most frequently involved sites. Signs of Pending Aneurysm Rupture The CT features of contained leak or pending rupture of an aortic aneurysm may be subtle and easily overlooked. We have to look for the high-attenuating crescent sign, focal discontinuity of intimal calcification or tangential calcium or the draped aorta sign table on the left. High-attenuating crescent sign in a patient with subtle evidence of leak adjacent to the right psoas muscle broad arrow. High-attenuating crescent The high attenuating crescent represents an acute hematoma within either the mural thrombus or the aneurysmal wall. This sign is strongly associated with AAA rupture. So even if there are no primary signs of rupture, we need to indicate to the referring physician, that this patient is at very high risk for aneurysm rupture within the next few days. High-attenuating crescent sign On the left two more cases of the high-attenuating crescent sign. In the case on the right we can also identify a retroperitoneal hematoma, so in this case there is a frank AAA rupture. Focal discontinuity of intimal calcification Another sign of impending rupture or contained leakage is focal discontinuity of intimal calcification. In most of these cases we can also identify the tangential calcium sign. In these cases it looks as if the calcium is pointing out away from the expected circumference of the aneurysm. Tangential calcium sign small arrow and hemorrhage broad arrow Tangential calcium sign On the left we see another example of the tangential calcium sign. The intimal calcification points away from the aneurysm and there is retroperitoneal leakage. The image on the far left shows a bulge of the aorta. This either represents a focal weakening of the aortic wall or a localized leak. This patient unfortunately was reported as having no leak and discharged from the emergency departement. Two weeks later there was a frank rupture. A positive aortic drape sign is considered to be present when the following features are seen: Patient died 3 hours later. On the left another patient who presented with backpain. There was no evidence of aneurysm leakage, but we see a draped aorta. The posterior contour of the aorta follows the contour of the spine as if the aorta is draped over the vertebral body. There is no imaging follow up in this patient, but three hours after this image was taken, this patient exsanguinated from a ruptured AAA. The leakage was probably where the bulge was arrow. Interactive cases In the menubar in the upper left, you will find interactive cases.