



## What Is an **Aortic Aneurysm**?

Diving into the problem of *weakened blood vessels*.

Let's take a journey through the largest blood vessel of the body, the aorta. This is the main conduit of blood from the heart to the rest of the body, and anything that goes wrong along this vessel can spell major problems.

The aorta extends from the left ventricle of the heart, arches in the thorax, then descends behind it and leads into the abdomen. It eventually bifurcates into the two main vessels for the lower limbs.

Along this very important conduit, any abnormal dilatation or bulging that arises is called an *aortic aneurysm*. This is caused by weakened aortic walls, often due to atherosclerosis. Less commonly, this weakening can also result from infection or congenital connective tissue disorders such as Marfan Syndrome and Ehlers-Danlos Syndrome.

As the aorta lies deep within the thorax and the abdomen, such abnormal dilatations are usually unnoticed externally. Therefore, aortic aneurysms are more often than not discovered incidentally, i.e. during an abdominal examination for other complaints or when a patient undergoes a CT scan or ultrasound. If the aneurysm grows large enough, it may present with backache.

Although uncommon, undiagnosed aortic aneurysms can grow so large as to rupture. This would lead to immediate symptoms and/or catastrophic results. In extreme cases, spontaneous aorta rupture can lead to instant death, while smaller bleeds could cause backache or severe abdominal pain, depending on where the aneurysms lies.

Aortic aneurysms are commonly associated with hypertension as high blood pressure hastens the development of an aneurysm within weakened vessel walls. Other significant risk factors include a history of atherosclerosis, especially if the patient is advancing in age. Those who have suffered a heart attack or stroke or have other forms of *Peripheral Arterial Disease (PAD)* are also at higher risk.

An ultrasound or CT scan usually confirms a diagnosis of an aortic aneurysm and it is an irreversible condition. It will then be a question of size, whether it grows larger and if so, how rapidly it enlarges.

For patients with an incidentally discovered aneurysm, the management will depend on the size of the aneurysm. If the size is reasonably small, conservative management with blood pressure control, perhaps with medication, and regular follow-ups will be prescribed. Your doctor will continue to carefully assess the aneurysm for further developments and to monitor if you develop other symptoms.

### Symptoms



Chest and back pain



Abdominal pain



Shortness of breath

However, if the aneurysm is big, and especially if you have symptoms suggesting an impending rupture, urgent surgery will be required. This will usually comprise placing an inlay graft at the section of the aneurysm. Any rupture would necessitate emergency surgical intervention.

An aortic aneurysm is definitely not a good thing and has to be carefully monitored. It becomes even more severe when surgery is required with various possible complications and a high mortality rate on the cards. Mortality for elective surgery can be as high as 50%, meanwhile for ruptured aneurysms it is 80%<sup>1</sup>.

### So, the bottom line?

Ultimately, unless yours is a condition that is congenital and out of your hands, you have to do your part in maintaining your health. Like many other diseases that ail us, it still boils down to maintaining a healthy lifestyle and healthy diet; and that is another story on another page.

<sup>1</sup> National Institute for Health and Clinical Excellence: Overview – Endovascular stents for abdominal aortic aneurysms, Page 4, May 2008

# BLOCKED!

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### The Dangers of an **Acute Aortic Occlusion**

An aortic occlusion is very simply a block that occurs somewhere along the aorta.

This can be caused either by an embolism or in situ thrombosis. An embolism results from a clot formed somewhere along the blood vessels that travels and lodges itself in the aorta. Risk factors for embolism include valvular heart disease and being female.

Meanwhile, a thrombosis is a clot that forms at the point of occlusion itself, with risk factors being smoking, diabetes, and blunt abdominal trauma.

Both embolisms and thrombosis are, once again, due to atherosclerosis - yes, it is the scourge of our arteries. Previous surgical reconstructions can also be susceptible to occlusion.

An acute aortic occlusion is a sudden block, and this is a relatively rare vascular condition. It can be life-threatening and can result in long-term damage to organs as it causes reduced blood flow and oxygen levels. The most common aortic occlusion is infrarenal.

Symptoms of acute occlusion can vary depending on where the block is. They include the sudden onset of pain, acute limb ischemia, paralysis or weakness and mottling at the lower extremities, abdominal symptoms and acute hypertension. Diagnosis is confirmed via ultrasound and/or CT angiography.

### Symptoms



Paralysis



Stroke-like symptoms

Acute aortic occlusions are considered surgical emergencies, and they are usually associated with high morbidity and mortality rates. Surgical intervention would either be open aortic surgery, extra-anatomic bypass or endovascular revascularization. The option prescribed will depend on various factors, including the type and location of the occlusion, the patient's general health and medical history.



Outcomes and recovery depend on timely presentation, early recognition and diagnosis and the prompt institution of treatment. The most common complication of this condition is acute renal failure, especially for those with renal artery occlusion.

Post-operative management for acute aortic occlusion would see aggressive protocols to prevent pulmonary and renal complications.