What Is an Abdominal Aortic Aneurysm?

An abdominal aortic aneurysm (AAA) is a large bulge in the aorta wall within the abdominal area.

The aorta is a large blood vessel that extends from the heart and delivers oxygen-rich blood to the rest of the body through a network of smaller blood vessels. The wall of the aorta is elastic, so it expands and contracts with each heartbeat. If the aortic wall weakens over time, an aneurysm can develop.

Symptoms of an AAA
Most patients with an AAA have no symptoms, although some may experience a pulsating feeling in their abdominal area. AAAs typically develop slowly over many years but can sometimes start to expand quickly. Large aneurysms can burst (rupture) and cause extensive bleeding within the abdomen, which can be life-threatening if not urgently treated.

Who Is at Risk of an AAA?
Risk factors for AAA include male sex, older age (average age at diagnosis of AAA is 65-75 years), cigarette smoking (80% of patients with an AAA have a history of smoking), presence of aneurysms in other blood vessels in the body, family history of AAA, high blood pressure, high cholesterol, and peripheral artery disease. Smoking cessation and control of high blood pressure and high cholesterol decrease the risk of AAA.

The US Preventive Services Task Force and the Society of Vascular Surgery recommend that men aged 65 to 75 years who are current or former smokers have an abdominal ultrasound to screen for AAA. Medicare Part B covers ultrasound tests in this group of patients. Approximately 5% of patients who undergo screening are diagnosed with an AAA.

How Are Unruptured AAAs Diagnosed?
AAAs can sometimes be detected on physical examination if a clinician feels a large pulsing mass in the belly. AAAs may also be found on an imaging study, such as an ultrasound or computed tomography (CT) scan.

Treatment of AAAs
Management of an AAA depends on its size and location and how quickly it is expanding. Smaller AAAs are typically monitored with imaging tests (ultrasound or CT scan) over time to ensure the aneurysm is not growing. AAAs that enlarge to more than 55 mm in diameter in men or 50 mm in women or are rapidly expanding (≥5 mm in 6 months or >10 mm in 1 year) have an increased risk of rupture and are generally recommended to undergo repair. Treatment options for an AAA include

- Endovascular aortic repair (EVAR): Prosthetic material (a stent graft) is delivered through a catheter inserted into blood vessels in the groin, and after positioning, expands to make contact with the aortic walls, thereby reinforcing the aorta and closing off the aneurysm. Since EVAR does not involve surgery on the aorta, it is associated with a faster recovery compared with open surgical repair. Long-term survival is similar for EVAR and open surgical repair.
- Open surgical repair: The AAA is surgically removed through an abdominal incision, and a replacement tube made from synthetic material (a prosthetic graft) is attached to the remaining portions of the aorta. Surgical repair is generally reserved for those who are at lower risk of complications from surgery or whose anatomy would not be suitable for EVAR.

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