National University Heart Centre Singapore

Aortic Dissection

Scan the QR code to visit the Aortic Centre website for more details.

STEP 01

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STEP 02

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What is aortic dissection?

Aortic dissection is a life-threatening tear in the wall of the aorta, one of the two large vessels arising directly from the heart. They are rare and occur in about 5 per 100,000 persons annually and may be related to underlying genetic syndromes. Dissection could be central involving the ascending aorta (Type A) or distal (Type B). Central Type A dissection is more frightening. Most patients who present acutely with Type A dissection will die (more than 50% within 2 weeks) without urgent surgical intervention.

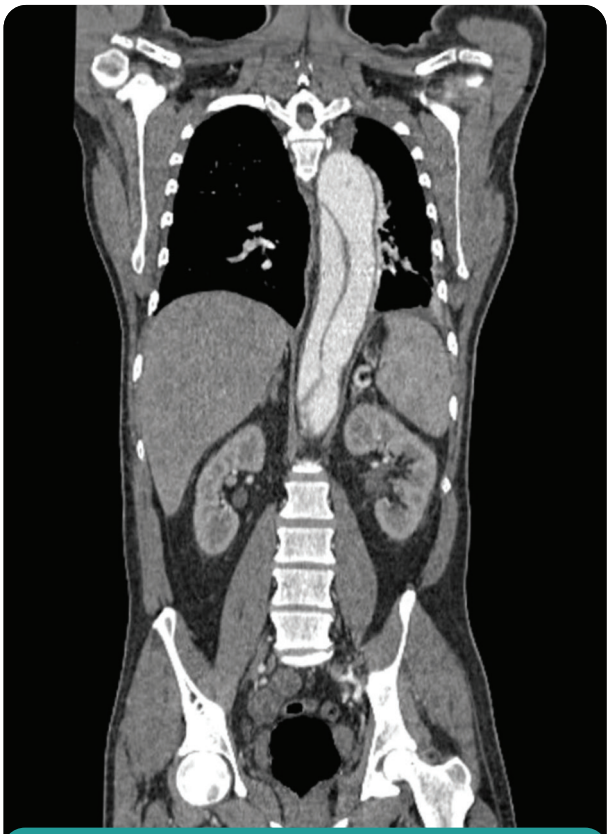
Who is at risk?

Certain risk factors may affect the aortic wall and predispose it to dissection. These risk factors include uncontrolled hypertension and older age, as well as congenital disorders such as Marfan syndrome, annuloaortic ectasia, familial aortic dissections, and bicuspid aortic valve. Patients with congenital disorders often present much younger – in their 30s or 40s. However, two main and most common risk factors for aortic dissection are poorly control blood pressure and increased aortic diameter.

What are the symptoms?

The symptoms usually occur suddenly, and patients may present with sudden onset of back or chest pain. Some patients may present with complications arising from the dissection, such as heart attack, neurological symptoms such as focal numbness or weakness, abdominal pain, and lower limb pain. Certain patients may develop major stroke.

How is aortic dissection diagnosed?



Aortic dissection is diagnosed on contrasted CT scan of the whole aorta.

It may be suspected using echocardiography or angiography.

The CT scan will also demonstrate the extent of the dissection.

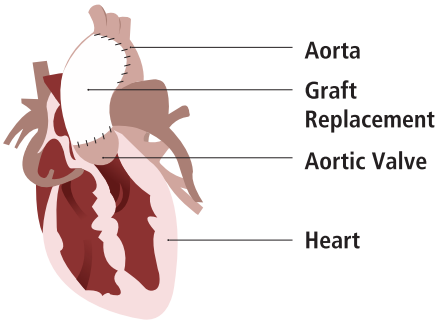
Echocardiography is usually done once diagnosed to assess the function of the aortic valve.

What is the treatment?

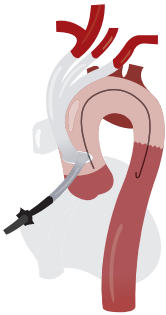
Treatment of an aortic dissection depends on whether it is central (Type A) or distal (Type B). Distal, Type B dissections can usually be managed medically with pain relief and blood pressure control. The surgery for distal dissection (open surgery or stenting) would be required only in patients who develop complications of the dissection (aortic branches blocking, aneurysm formation). However, the only treatment for central, Type A aortic dissection is emergency open heart surgery.

The standard part of the surgery involves replacing the diseased proximal part of the aorta with an artificial graft, and is performed under general anaesthesia with the use of a heart-lung machine. The ultimate goal of surgery is to prevent further dissection leading to aorta rupture and save life. Depending on the extent and origin of the tear, additional surgery procedures may be required such as replacing the aortic valve, re-implanting the coronary arteries, performing a coronary artery bypass graft or treating the arch of the aorta.

Aortic Dissection Repair



In order to perform surgery it is usually necessary to cool the body temperature down to less than 30 degree celsius and stop blood circulation altogether for the surgeon to work on the aorta.



What happens after surgery?

The initial surgery directs blood from the heart into the appropriate passage of the torn aorta (true lumen), which will stabilise the condition, prevent acute complications, improve blood flow to the organs and greatly reduce mortality. However, usually there will still be residual tear in the distal part of the aorta, with blood going to the false passage.

Your surgeon will advise you on the necessary surveillance. Most patients will need long-term follow up with CT imaging. This surveillance is necessary to monitor for chronic complications such as dilatation of the false passage. In some cases, repeated surgery is required to address residual false passage or newly formed aortic dilatation (aneurysm).

You may also be advised to consult a vascular surgeon on whether further intervention is required.

If there is associated valve disease, coronary artery disease or existing cardiovascular risk factors, you should also follow up with a cardiologist who will help to optimise your cardiac medications and manage your modifiable risk factors.

As this condition may also be related to a genetic disorder, especially in younger patients, your surgeon may advise you to consult a genetics specialist, who will take you through what you need to know about genetic testing, discuss your options decide whether or not to proceed with it.

Location

Contact Information

National University Heart Centre, Singapore

NUH Main Building Zone F, Heart Clinic
Opening Hours: 8.00 am - 5.30 pm (Monday - Friday)
Closed on Weekend & Public Holidays
Tel: **8938 4677**
Email: **aortic_centre@nuhs.edu.sg**
Website: **www.nuhcs.com.sg**

Getting to NUH

Circle Line Kent Ridge MRT Station
Commuters can transit at the Buona Vista MRT Interchange and alight two stops after at the Kent Ridge Station. The station is served by three exit-entry points.

Exit A: Right at the doorstep of National University Heart Centre, Singapore.

Exit B: Along South Buona Vista Road, which links to Singapore Science Park 1.

Exit C: Leads to NUH Medical Centre.

Every day, we impact lives by providing assistance to financially disadvantaged patients. Help us continue our vital work and fight for every heartbeat through your generous support!

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