

HKSH Neurosurgery Centre

Happy Valley

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Service Hours

Monday to Friday: 9:00 am – 5:00 pm
Saturday: 9:00 am – 1:00 pm
Closed on Sundays and Public Holidays
Consultation by Appointment



Cerebral Aneurysm



For enquiries and appointments,
please contact us

Cerebral Aneurysm

Cerebral aneurysm refers to focal bulging in a brain artery that has become weakened under pressure of blood flow. It is usually located at the bifurcation of major brain arteries, where there is no underlying connective tissue for structural support.

When an aneurysm continues to enlarge, it will eventually rupture and result in a situation known as subarachnoid haemorrhage – a very devastating form of haemorrhagic stroke.

It can be immediately life-threatening in about 10% of patients. About one third of survivors will have permanent severe disability.

Its formation is believed to be due to a combination of congenital and acquired factors: some people may be more prone to develop weakened blood vessel wall, especially under influence of high blood pressure, hyperlipidaemia and smoking.

Symptoms

Most brain aneurysms are asymptomatic until they rupture.

When an aneurysm ruptures and causes haemorrhage, the patient will experience sudden severe headache – often described as the worst ever headache in one's lifetime. It may also be associated with vomiting, neck pain and loss of consciousness.

If the aneurysm is located near the third cranial nerve (a nerve controlling eyeball and eyelid movement) and exerts pressure on it, the patient may develop dropping of eyelid and double vision.

There are also situations when the aneurysm is exerting pressure and irritating the meninges, which causes resistant headache.

Treatment

Once an aneurysm ruptures, the principle of treatment is to resuscitate the patient and secure the bleeding point to prevent re-rupture.

For unruptured aneurysm, decision of management depends on several factors, including size, shape

and location of the aneurysm, the patient's age and health status.

The chance of aneurysmal rupture is directly related to its size. Therefore, more active treatment is usually recommended for large aneurysms.

The objective of treatment is to occlude the aneurysm and prevent it from rupture. Treatment modalities include:

1. Clipping with Microsurgery

The opening of aneurysm (neck) is occluded by surgical clip under microscope. This is an open surgery performed under general anaesthesia. It is applicable for both ruptured and unruptured cases.

2. Minimally Invasive Catheter-based Procedure: Endovascular Coiling

Micro-catheter is navigated to the aneurysm by endovascular techniques under X-ray guidance. Platinum coils are then deployed into the aneurysmal sac to occlude it.

This is a minimally invasive procedure performed under general anaesthesia, applicable for both ruptured and unruptured cases. Studies have proven that both its recovery and complication rate are more superior to open surgical clipping.

3. Minimally Invasive Catheter-based Procedure: Flow Diversion with Stent

Micro-stent is deployed in the involved segment of the artery by endovascular technique. The opening of the aneurysm is occluded by the stent and the aneurysm will then be gradually occluded.

This is also a minimally invasive technique performed under general anaesthesia.

The patient will take antiplatelet medication for a certain period after the procedure. It is usually not recommended for acutely ruptured aneurysm.

Prevention

If you have a treated aneurysm or an untreated aneurysm under observation, you should have vigilant control of your blood pressure and avoid smoking.

If you experience unusual and severe headaches, i.e. severe and persistent headaches not relieved by resting or simple analgesics, you should consult your doctor immediately.