

A Short Note on Abdominal Endovascular Aneurysm Repair

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ABOUT THE STUDY

An aortic aneurysm is a bulging, dilatation, or ballooning in the wall of a blood vessel, generally an artery, caused by a segment of the arterial wall weakening or degenerating. The aneurysm expands like a balloon, stretching the artery walls thinner and compromising the artery wall's capacity to extend any farther. An aneurysm is at risk of rupturing and producing possibly deadly haemorrhage at this stage, exactly like a balloon that has been inflated up too much. The optimum procedure for repairing an aneurysm is determined by various criteria, including the aneurysm's location and form, as well as the patient's physical condition. An aortic aneurysm can be treated using endovascular grafting, which is a minimally invasive procedure. Surgeon may suggest an Endovascular Aneurysm Repair (EVAR) instead of an open aneurysm repair, which involves surgically opening of chest and abdomen. An aneurysm (abnormal expansion) of the abdominal aorta is treated with an abdominal aortic aneurysm repair operation. An open incision can be used to repair an abdominal aortic aneurysm, or a minimally invasive treatment termed Endovascular Aneurysm Repair can be used (EVAR). Through minor incisions in the groin, a stent graft (a fabric tube supported by metal wire stents that supports the weak area in the aorta) is placed into the aneurysm. Endovascular aneurysm treatment does not require a major incision and has a much quicker recovery time than traditional open surgery. However, endovascular treatment is not appropriate for all aneurysms.

Aneurysm repair using endovascular techniques

In the illustration to the right, an endovascular stent graft is placed in an aortic aneurysm. A catheter is placed into a groin artery. The stent graft is removed from the catheter after it has been threaded to the abdominal aorta. The stent graft permits blood to pass through the aneurysm. Endovascular repair cuts

recovery time to a few days and minimizes hospital stay in half. However, this approach does not allow doctors to repair all aortic aneurysms. A stent graft may not be able to be safely or reliably put into an aneurysm due to its location or size.

Repair of a branched arch aneurysm

The arterial branches that provide blood to the brain and upper extremities are linked to the aortic arch; aneurysms along the aortic arch are rare and difficult to cure. The graft limbs of a customised branching endograft branch from the main section of the device to give direct blood supply to the kidneys, liver, stomach, intestines, and visceral arteries.

Repair of a thoracic endovascular aneurysm

The ascending aorta, the aortic arch, and the descending thoracic aorta are all examples of thoracic aortic aneurysms that form above the diaphragm, the barrier between the chest and belly. A thoracic aortic aneurysm is a protrusion in the aorta that causes the diameter of the aorta to expand to several times its usual size. An aneurysm of this type can burst, causing severe internal bleeding that is often deadly. TEVAR was originally designed to treat individuals who were deemed unsuitable for surgery, but it is now regarded a viable alternative to open surgery in the vast majority of situations.

When a TAA requires treatment, medical therapy is frequently the first option, which may include decreasing blood pressure, eliminating smoking, and lowering cholesterol in the patient's diet. Medical therapy, on the other hand, is not regarded a cure for TAA, it only lessens the load on the aneurysm.

Endovascular aneurysm repair for the abdominal and thoracic aorta has been pioneered by UCSF vascular surgeons. The key investigations are also leading clinical studies to develop cutting-edge endovascular devices to improve aortic aneurysm therapy.

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