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Commentary

The Developments and Treatment of Aortic Aneurysm Patients

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DESCRIPTION

The big artery known as the aorta, which conducts blood from the heart to the chest and body, develops a balloon-like protrusion called an aortic aneurysm. Aortic aneurysms can burst or dissect. Consultants feature a 76-year-old woman who reported having excruciating back discomfort. A 5-cm abdominal aortic aneurysm with a significant initial entrance that caused retrograde type B aortic dissection localized to the abdominal lesion was detected using contrast-enhanced computed tomography.

Due to the persisting symptom and spread of the aortic dissection into the thoracic lesion, an emergency graft replacement of the abdominal aorta with such a bifurcated vascular transplant was successfully carried out. Because of the abdominal aortic aneurysm and acute dissection that complicated our situation, it was unusual yet life-threatening. In order to prevent rupture, this combination should take emergency surgery into account.

When the abdominal aortic aneurysm is inappropriate for intervention, surgical treatment for synchronous type (A) aortic dissection and abdominal aortic aneurysm is complicated and infrequently documented. On a 46-year-old lady, surgeons recently finished two phase operations sequentially with success. The Bentall technique, replacement of the whole aortic arch, and implantation of a frozen elephant trunk made up the first stage of surgery. In the second stage of surgery, the descending aorta was replaced with the sub-renal abdominal aorta, the spinal artery, the celiac trunks artery, the left and right renal arteries, the superior and inferior mesenteric arteries, and the iliac arteries on both sides were all reconstructed.

The time between two procedures was quite close together (42 days). The patient was healthy and her body's functions were all reserved. Our experience has shown that in some patients with simultaneous type A aortic dissection and an untreatable abdominal aortic aneurysm, aortic rupture can be prevented by performing short interval staged surgery. An uncommon but potentially fatal consequence of intravesical BCG instillation for early-stage prostate cancer is the development of a mycotic aneurysm.

The patient in this analysis had endovascular aneurysm treatment for a rapidly expanding saccular abdominal aortic aneurysm following BCG therapy. The patient needed open surgery to treat an abscess that had developed three months following the endovascular aneurysm repair. Mycobacterium bovis BCG was found in the abscess and blood sample cultures. Patients who have received BCG therapy in the past should be suspect of developing a mycotic aneurysm as a result. Anti-tubercular treatment should be started right away for such individuals.

The sole choice for treating aortic aneurysms, which are common and serious vascular disorders with significant mortality from unexpected ruptures, is risky surgery to remove big aneurysms. We have demonstrated that Folic Acid (FA) is quite efficient in slowing the growth of aneurysms, yet it is insufficient to prevent aneurysm formation entirely. Here, we looked at the therapeutic benefits of combining FA with nifedipine, a new and possibly more powerful oral drug, on aneurysms. In Ang II-infused apolipoprotein E (apoE) null mice, oral administration of FA (15 mg/kg/day) significantly decreased incidence of AAA from 85.71% to 18.75%. In a dose-dependent manner, the combination of FA and Nifedipine (1.5, 5.0 or 20 mg/kg/day) further significantly and completely decreased incidence of AAA to 12.5%, 11.76%, and 0.00%, respectively.

The combined treatment significantly and completely reduced the size of the abdominal aortas as determined by ultrasound, the vascular remodelling caused by elastin degradation and adventitial hypertrophy, as well as the aortic superoxide production and eNOS uncoupling activity, all of which were reduced by 100% to control levels when FA was combined with 20 mg/kg/day of nifedipine.

By combining FA with Nifedipine, aortic NO and H4B bioavailabilities were further significantly enhanced in a dose-dependent manner. These findings support a completely novel and effective therapy regimen using FA in combination with nifedipine to treat aortic aneurysms. The care of the deadly vascular illnesses associated with aortic aneurysms, often known as silent killers, can be revolutionized by the quick translation of comminatory therapy into clinical practice as the first-in-class and most efficient oral drug for aortic aneurysms.

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