Leaking Aortic Pseudoaneurysm Originating from the Left Main Coronary Artery Anastomosis: CT-Angio image and reality

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Pseudoaneurysm of the ascending aorta after a composite graft operation (Bentall) is an uncommon postoperative complication [1-4].

A 44 year old man was admitted with acute severe chest pain. Four years previously he had undergone a modified Bentall operation for an ascending aortic aneurysm with severe aortic insufficiency. A chest computed tomography (CT) scan showed a 7 cm pseudoaneurysm of the aortic root [Figure 1A]. The origin of the leak feeding the pseudoaneurysm was identified precisely at the anastomosis of the left main coronary artery to the composite graft. A small niche at the cranial pole (toe) of the anastomosis was clearly demonstrated [Figure 1B].

At re-operation the Dacron graft was transected and a 1.5 mm fistula was found in the exact location pinpointed by the CT-angiogram at the upper pole of the anastomosis of the left main coronary artery to the composite graft [Figure 2]. Direct repair of the fistula was performed, supported with an autologous pericardial strip. The postoperative course was uneventful and the patient was discharged home 5 days later.

This complication may have been prevented during the original operation by creating a smaller hole in the graft and constructing a completely tension-free anastomosis with the coronary artery button.

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Figure 1.
256-slice gated CTA of the chest

[A] Axial scan showing a large pseudoaneurysm of the aortic root with an obvious arterial leak feeding it (arrow).

[B] A curved multi planar reformation (MPR) along the LAD centerline, identifying the leak precisely at the anastomosis of the left main coronary artery to the aortic composite graft
Capsule

Sleeping while awake

Sleep deprivation affects our behavior and performance. Bernardi and co-workers demonstrate the connection between task-specific performance decrease and local sleep in relevant parts of the human brain. During 24 hours of wakefulness, individuals participated in driving simulations and executive function exercises. Their task-related abilities, such as visuomotor control and response inhibition, were tested alongside electroencephalography (EEG) recordings and functional magnetic resonance imaging (fMRI). Local EEG theta waves, normally observed during sleep, coincided with times of slower movements, visual inaccuracies, and decreased impulse control. The fMRI scans exposed cognitive fatigue in the form of regional neuronal disconnections in the task-relevant brain areas in addition to the general deficiencies.

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Capsule

Seeing stress signaling in living mice

Stress activates the eIF2α-ATF4 pathway to reduce global protein production while enhancing targeted gene expression, which helps cells adapt and survive. Activation of this pathway is associated with various pathologies, such as tissue fibrosis after injury. Chaveroux et al. developed transgenic mice in which the activation of this pathway could be monitored at the whole-animal level and at the tissue and cellular level. Activation was tissue-specific, depending on the initiating stress. Chemically induced liver fibrosis correlated with activation of the eIF2α-ATF4 pathway by a specific kinase.

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“I like nonsense, it wakes up the brain cells. Fantasy is a necessary ingredient in living, it’s a way of looking at life through the wrong end of a telescope. Which is what I do, and that enables you to laugh at life's realities”

Dr. Seuss (1904-1991), pen name for American writer and cartoonist Theodore Geisel, most widely known for his children’s books (e.g., Green Eggs and Ham, The Cat in the Hat, The Lorax, One Fish Two Fish Red Fish Blue Fish), characterized by imaginative characters, rhyme, and frequent use of anapestic meter. His works have prompted 11 television specials, 4 feature films, a Broadway musical and 4 television series. During World War II, he worked in an animation department of the United States Army, where he wrote Design for Death, a film that later won the 1947 Academy Award for Documentary Feature. Geisel’s birthday, March 2, has been adopted as the annual date for ‘National Read Across America Day’, an initiative on reading created by the National Education Association.