Sternotomy for aortic dissection with substernal pull through: The importance of surgical history

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Video clip is available online.

A 45-year-old man presented to the emergency department with chest pain and hypertension. Systolic blood pressures were asymmetric, with 180 mm Hg in the left arm and 150 mm Hg in the right arm. Computed tomographic angiography (CTA) of the chest suggested a type A aortic dissection originating in the aortic root and extending to the iliac bifurcation. The patient appeared grossly neurologically intact, without obvious signs of malperfusion. The patient's wife gave a history of lye ingestion as a toddler and subsequent esophagectomy. The CTA demonstrated

CTA depicts substernal colonic interposition graft with a type A aortic dissection.

Central Message

CTA of the chest in a 45-year-old man with a type A aortic dissection highlights the importance of thorough surgical history and preoperative imaging, even in an emergency setting.

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the presence of a substernal colonic interposition graft (Figure 1 and Video 1). In the operating room, a sternotomy was performed with an oscillating saw. The conduit was not densely adherent and was mobilized from the sternum with a combination of sharp and blunt dissection, taking care to protect the mesentery. The colon was retracted into the right

FIGURE 1. Computed tomography of the chest depicting a dissection flap traversing the aortic arch with the overlaid colonic interposition graft placed during childhood.

VIDEO 1. Description of a type A aortic dissection repair in an individual with a history of esophagectomy with gastric pull through. Video available at: [https://www.jtcvs.org/article/S0022-5223\(19\)30934-1/fulltext](https://www.jtcvs.org/article/S0022-5223(19)30934-1/fulltext).

pleural space, and a Bentall operation with replacement of the aortic root and reimplantation of coronary buttons to a valved conduit was performed. The patient was discharged

home 13 days after the operation with the expectation of full recovery.

Of note, transesophageal echocardiography was not performed because of the history of esophagectomy, and preoperative transthoracic echocardiography could not identify the conduit. Had the colon been injured on entry, immediate containment of the stool content and repair of the injury would have been necessary. In addition to previous reports of this rare presentation,^{1,2} this case highlights the importance of obtaining a thorough history, including comorbidity, connective tissue disorders, and previous surgeries, to guide surgical planning, even in an emergency setting.

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