

10:30 A.M. – 11:00 A.M.

RAPID FIRE SESSION II - Wellington Ballroom

PRESIDING: Jon S. Matsumura, MD
Krishna M. Jain, MD

RF6. Endovascular Salvage of Aortic Arch Vessels Following Unintentional Occlusion During TEVAR: The Snorkel Technique

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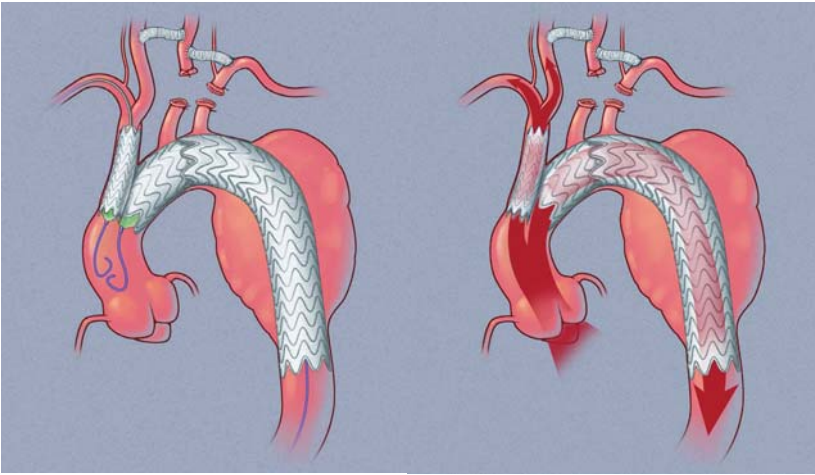
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OBJECTIVES: Thoracic endovascular aortic repair (TEVAR) can be complicated by inadvertent coverage of aortic arch vessels. We report our experience with the Snorkel technique as a rescue strategy to preserve blood flow after unintentional occlusion of the arch vessels after during TEVAR.

METHODS: We retrospectively reviewed all patients with unintentional coverage of aortic arch vessels treated with retrograde arch vessel stenting of the covered artery in order to restore flow.

RESULTS: Eighty-seven patients underwent TEVAR between 2003 and 2008 and 3 patients (3%) experienced unintentional coverage of their arch vessels. Two patients had near total or partial coverage of the innominate artery, which was the only patent arch vessel following cervical debranching. Unintentional partial occlusion of the left common carotid occurred in a third patient who had also undergone intentional left subclavian artery occlusion. In all 3 patients, blood flow was successfully preserved by retrograde placement of a stent into the compromised arch vessel alongside the thoracic endograft via a brachial or carotid artery approach, thereby preserving flow into both the arch vessel and the aorta without compromising the TEVAR repair. Because of the appearance of the stent alongside the endograft, we refer to this salvage maneuver as the "Snorkel" technique. In all cases, in addition to preservation of blood flow to the arch vessels, the thoracic aortic aneurysm was successfully excluded without evidence of endoleak. There were no deaths. The patient with unintentional partial left common carotid artery coverage and intentional subclavian occlusion suffered a transient left occipital neurologic deficit. At a mean follow-up of 9 months, all Snorkel stents and aortic endografts remain patent without endoleak, migration, or loss of device integrity.

CONCLUSIONS: Proximal endograft displacement towards the aortic arch with unintentional occlusion of arch vessels remains a worrisome complication during TEVAR with the potential for significant adverse outcomes. The Snorkel technique may be an important salvage maneuver to rescue inadvertent aortic arch vessel occlusion during TEVAR.



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