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Proximal Debranching Using Ascending Aorta for Bypasses to Carotid, Innominate, and Subclavian Arteries with Endovascular Repair of Thoracic and Arch Aneurysms

Mark A. Farber and Jason Crowner

INDICATIONS

Advancements in medicine have resulted in a steady increase in life expectancy. In conjunction with this increase in age, there have been improvements in medical care and capabilities of diagnostic imaging, thereby enhancing the detection of various lesions including arch and thoracic aortic pathology. These pathologies include a combination or isolated occurrence of arch or thoracic aneurysms, aortic dissections, penetrating atherosclerotic ulcers, and intramural hematomas. With respect to aneurysmal disease, ascending aneurysms are the most prevalent (40%), with aneurysms of the descending thoracic aorta accounting for 35%, arch aneurysms 15%, and thoracoabdominal 10%. The population in which these pathologies are found can often be elderly or frail, and it is often difficult to determine the best method of repair. It should be noted that not only can these patients be older, but also they are more likely to have a larger number of comorbidities including, but not limited to, chronic obstructive pulmonary disease, heart-related issues including arrhythmias and failure, renal insufficiency, diabetes, and cerebral vascular disease. Czerny has demonstrated that each of these adds significant risk to the treatment of lesions in the ascending aorta and the aortic arch.