



Endovascular Treatment of Cervicothoracic Vertebral and Subclavian Disease: Long-term Clinical Outcome, Restenosis, and Retreatment

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Introduction

Endovascular treatment of cervicothoracic vertebral and subclavian disease has historically been hampered by significant restenosis rates. Advances in endovascular technology, dual antiplatelet therapy, and improved techniques may translate to significantly better outcomes and restenosis rates.

Methods

A single neurosurgeon’s series of endovascular-treated patients with cervicothoracic vertebral and subclavian disease from 2006-2012 was retrospectively analyzed for 30-day and long-term clinical outcomes (modified Rankin score) angiographic followup, and retreatment.

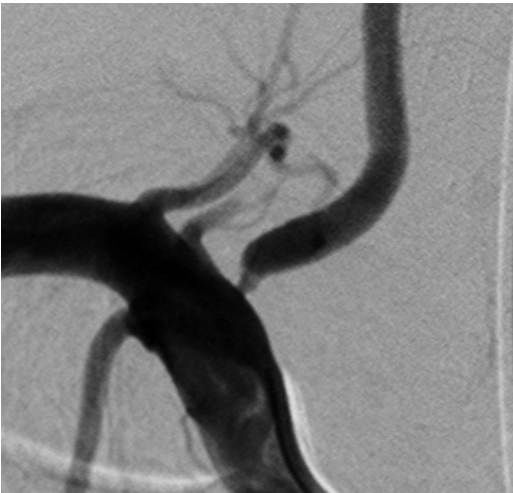
Results

45 patients were treated for vertebral origin(27), cervical vertebral(10), subclavian(7), and innominate(1) stenosis/occlusion. Clinical presentations were stroke/TIA(39), subclavian steal(5), and access(1). Stenosis was 82 +/- 11 percent; Dstenosis 1.04 +/- 0.68; Dnormal 5.6 +/- 1.8; and Length 8.56 +/- 6.1. Endovascular treatment consisted of balloon-mounted stent(36), balloon angioplasty and self-expanding stent(7), balloon angioplasty alone(2). Thromboembolic protection was used: distal(23), proximal(1), and none(21). All patients were on dual antiplatelet therapy. There were 0 periprocedural complications; 100% mRS<2 at 30 days; and 92% mRS<2 and 8% mortality (all unrelated: cancer, trauma) at long-term followup (26 +/- 13 months). There was 11% restenosis and 4% occlusion (asymptomatic) (20 +/- 12 months). There was 11% retreatment with no associated complications and no further restenosis.

Conclusions

Endovascular treatment of cervicothoracic vertebral and subclavian disease is very safe. There is 11% retreatment for restenosis but retreatment is very safe and associated with no further restenosis.

Symptomatic Vert Origin Stenosis



68 year old man with left vert occlusion, right vert origin stenosis, and posterior circulation TIAs

Angioplasty and Stenting

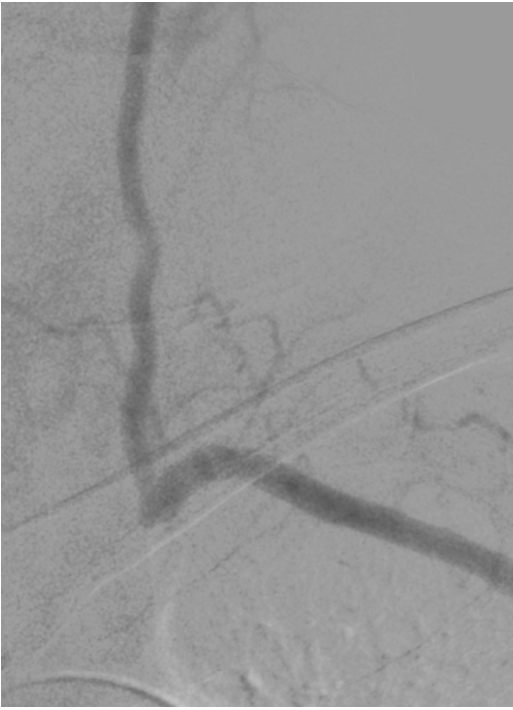


Subclavian Steal



51 year old man with subclavian steal

Subclavian Steal



Angioplasty and Stenting



Angioplasty and stenting of left subclavian occlusion