#23 CAROTID ARTERY STENTING WITH ROUTINE CEREBRAL PROTECTION IN HIGH-RISK PATIENTS AT A VA HOSPITAL – THE VASCULAR SURGEON'S PERSPECTIVE

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Introduction: Despite a well proven efficacy of carotid endarterectomy (CEA) in stroke prevention, recent studies showed carotid artery stenting (CAS) with distal embolization protection resulted in improved early outcome with less neurological sequellae compared to CEA in high risk patients. In this report, we report the evolution of a surgeon-initiated carotid stenting program with routine cerebral embolization protection in high-risk patients in a large Veterans Affairs hospital.

Materials and methods: High-risk patients who underwent CAS during a 16-month period were reviewed. Vascular surgeons performed CAS with neuroprotective devices in the operating room using a mobile C-arm unit. Operative indications, techniques, and treatment outcome were analyzed.

Results: Fifty-five patients with 58 carotid artery stenoses were treated (54 men, mean age 71 years). Procedural success was achieved in 53 patients (96%). Symptomatic lesions existed in 14 (25%) patients. Indications for CAS included previous CEA (13%), previous neck irradiation (6%), tracheostomy (4%), previous neck dissection (15%), high carotid bifurcation (4%), and severe cardiopulmonary disease (58%). Monorail Wallstents® stents were used in all cases along with periprocedural intravenous anticoagulation (heparin plus abciximab: 71%; or bivalirudin: 19%). Neuroprotective devices used were PercuSurge® (82%) and Filterwire® (18%). The mean procedural time of the first 15 CAS and all remaining procedures were 67±14 minutes and 45±10 minutes, respectively ($p<0.05$). There were no periprocedural mortalities or neuroprotective device-related complications. In-hospital stroke/death and 30-day ipsilateral stroke/death rate was 1.8%. Three perioperative cardiac events resulted in an overall complication rate of 7.3%. All stented vessels remained patent during the follow-up period (mean 8.3±3.2, range 1-15 months). One asymptomatic in-stent restenosis (2%) occurred at 6 months, which was successfully treated with balloon angioplasty.

Conclusions: A surgeon-initiated CAS program with routine utilization of embolic protection devices is safe and effective in high-risk patients with carotid occlusive disease. Periprocedural outcome is largely affected by cardiac adverse events. A learning curve does exist for CAS and the proper use of embolic protection devices. Our data demonstrate that a CAS program can be successfully be established by endovascular-competent vascular surgeons.