CREST (Carotid Revascularization Endarterectomy Versus Stenting Trial)

CREST (Carotid Revascularization Endarterectomy Versus Stenting Trial) results, published in 2010, showed no difference in the rates of composite outcome (stroke, myocardial infarction, or death) between Carotid artery stenting (CAS) and carotid endarterectomy (CEA).

Siddiq et al. estimated the frequency of CAS and CEA procedures in the years 2009 (pre-CREST period) and 2011 (post-CREST period), using data from the National Inpatient Sample (NIS). Demographic and clinical characteristics and in-hospital outcomes of pre- and post-CREST CAS-treated and post-CREST CEA-treated patients were compared with pre-CREST CEA-treated patients.

A total of 225 191 patients underwent CEA or CAS in the pre- and post-CREST periods. The frequency of CAS among carotid revascularization procedures did not change after publication of the CREST results (12.3% vs 12.7%, P = .9). In the pre-CREST period, the CAS group (compared with the CEA group) had higher rates of congestive heart failure (P < .001), coronary artery disease (P < .001), and renal failure (P < .001). The post-CREST CAS group had a higher frequency of atrial fibrillation (P = .003), congestive heart failure (P < .0001), coronary artery disease (P < .0001), and renal failure (P = .0001). Discharge with moderate to severe disability (P < .0001) and postprocedure neurological complications (P = .005) were more frequently reported in the post-CREST CAS group. After adjusting for age, sex, and risk factors, the odds ratio (OR) for moderate to severe disability was 1.0 (95% confidence interval [CI]: 0.8-1.2) in the pre-CREST CAS group and 1.4 (95% CI: 1.1-1.7) in the post-CREST CAS group compared with the reference group. The adjusted OR for neurological complications in the pre-CREST CAS group was 1.6 (95% CI: 1.2-2.1, P = .002), and 1.5 (95% CI: 1.1-2.0, P = .01) in the post-CREST CAS group.

The frequency of CAS and CEA for carotid artery stenosis has not changed after publication of the CREST. The demographics, pretreatment comorbidity profile, and in-hospital complication rates remained unchanged during the 2 time periods [1].

1)
Siddiq F, Adil MM, Malik AA, Qureshi MH, Qureshi AI. Effect of Carotid Revascularization Endarterectomy Versus Stenting Trial Results on the Performance of Carotid Artery Stent Placement and Carotid Endarterectomy in the United States. Neurosurgery. 2015 Nov;77(5):726-32. doi: 10.1227/NEU.0000000000000905. PubMed PMID: 26308633.