## Carotid Artery Stenting 2008 – What do Trials and Registries Tell us?

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**Objectives:** To provide a critical overview of randomized studies comparing carotid stenting (CAS) with surgical endarterectomy (CEA) and controlled registries of CAS.

**Background:** CAS has become a frequently applied treatment alternative to CEA. CEA represents a class I indication as compared to medical treatment alone based on a variety of randomized studies in both symptomatic and asymptomatic patients (pts). As a newer treatment CAS has up to now a weaker evidence based data pool. Thus, it is difficult at the moment to ground a treatment decision solely on the interpreatation of randomized study data. CAS has meanwhile accomplished a solid level of outcome data in controlled registries.

**Methods and Results:** Based on a systematic literature search using MedLine we analyzed patient outcome data of all randomized comparative studies (CEA vs CAS) and large controlled CAS registries (> 500 pts) published until December 2007. The data of 4 randomized studies including 2514 pts. were put in a meta-analysis (CAVATAS, SAPPHIRE, SPACE and EVA-3S) yielding no significant outcome differences between CEA and CAS with respect to the primary study endpoint (death and/or stroke @ 30days, 6.7 vs 8.1%, p=0.26). Data of 2 large prospective German registries (BAQ and ALKK) including 14,311 pts resulted in <3% rate of death and/or any stroke with significant influence of some clinical or procedural factors like symptomatic status and use of an embolic protection device. Moreover, both center experience and case volume positively influenced the procedural outcome. In-hospital stroke or death was 2.9 or 4.6% in centers with >50 or ≤50 interventions per year (p=0.0014).

**Conclusion:** This analysis demonstrates comparable results of CEA and CAS in published randomized trials. Center and operator experience as well as case load are important factors which have to be taken into account during interpretation of published reports and planning future randomized studies.