Current Status of Carotid Angioplasty and Stenting

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Introduction: Carotid angioplasty and stenting (CAS) is increasingly utilized in place of carotid endarterectomy (CEA) even though there are few randomized trials directly comparing these alternatives. We sought to review the current state of the evidence surrounding CAS.

Case Series:

Industry-Sponsored Registries:

Randomized Trials:

- More than 20 studies representing >23,000 patients
- 51% patient symptomatic
- 97% technically successful (stent placed)
- 64% utilized an independent neurologist
- Embolic protection devices (EPDs) not routinely utilized until 2002, they were nearly universal thereafter
- Stroke rates varied (1-8%), lower with experience and EPD use
- Restenosis varied (1-8%) and were infrequently reported

- Results of more than 10 industry-sponsored trials have been reported at national meetings, but none have been published in a peer-reviewed journal
- All registries (except ARCHer 1) routinely utilized EPDs
- Stroke rates varied from 2.2-6.9% at 30 days
- Combined adverse outcome measures (stroke, death or myocardial infarction) varied from 3.8-8.6% at 30 days

- FDA approval:
  - Only two devices currently FDA approved and CMS reimbursed
  - Only approved for high-risk patients
  - Outcomes tracked for CMS review

- Conclusions:
  - Although equivalency with CEA has been established in high-risk patients, the effectiveness of CAS in lower risk patients is not yet established.
  - Ongoing randomized trials will help determine optimal carotid revascularization strategies in the future.