Carotid endarterectomy is considered the treatment of choice for patients with focal embolic symptoms and ipsilateral significant carotid stenosis. In general, these patients have duplex ultrasound and/or imaging studies that demonstrate internal carotid stenosis of 70–75% or greater by ESCT criteria, of 50% or greater by NASCET criteria or, as in recent years, by duplex scan criteria scaled to either the ESCT or NASCET criteria. There is little data and no general guidelines for management of symptomatic patients with marginally significant or lesser degrees of stenosis. Surgeons frequently performing CEA over many years only occasionally or infrequently encounter this small sub-set of symptomatic patients with hemodynamically insignificant mild or low-moderate stenosis. Given such a patient, physicians are faced with a difficult management decision. Few would choose CAS for symptomatic patients in general and even less likely in this small group of patients.

The choice of best medical management is difficult given the recognized incidence of recurrent embolic events and the current trend for early CEA in patients with an index TIA, AF or mild stroke and significant stenosis. For the same reasons it may also be the wrong decision for this small sub-set of patients. The authors contend that embolic symptoms and plaque instability are as important as the degree of stenosis in choosing CEA. The degree of carotid stenosis does not correlate with the bulk or mass of the plaque, and certainly not with the luminal surface area available for endothelial cap rupture and ulceration/embolization potential. This is obvious when considering the marked difference between the definition of the degree of stenosis for the ESCT and NASCET methods. One could argue that the adverse hemodynamics produced by high grade and moderate stenosis plays a major role in ulceration and embolization. While this is probably true, the hemodynamics of lesser degrees of stenosis as well as that of normal carotid bulbs is complex with zones of high and low wall shear stress.

Although the number of patients in this retrospective study is small, the perioperative stroke rate of 3% (1/31) and the single late TIA/stroke with a mean follow-up of 4 years are consistent with current standards of excellence. Of these 31 patients, 25 had less than 70–75% carotid stenosis by ESCT criteria and less than 50% stenosis by NASCET criteria. The other six had borderline significant stenosis. While high grade and clearly moderate carotid stenosis are usually easily identified, the author’s duplex and imaging data illustrates the difficulty of obtaining an accurate and precise estimate of the degree of mild and low-moderate stenosis. Duplex ultrasound and imaging results are often at variance in these patients. This is further complicated by the often confusing issue of the difference in ESCT and NASCET anatomic criteria as well as the various duplex scan criteria for the low end of the of
significant stenosis spectrum. Their experience confirms this frustrating problem.

I agree with the author’s conclusion that "plaque stability (instability) and the number of ischemic events may be as important as an estimate of the degree of stenosis" in choosing CEA. While they give soft data on plaque morphology and some patients had multiple ischemic events, the value of their paper is support of CEA for symptomatic patients with mild or low-moderate stenosis. To go one step further, it may be advisable to recommend CEA for patients with only a clear index embolic ischemic event and ipsilateral mild or borderline significant internal carotid stenosis. Because this is a very small sub-set of symptomatic patients, it is unlikely that randomized controlled studies can be done with sufficient power to determine if CEA is the treatment of choice. The acceptable outcomes of this thoughtful retrospective experience encourage and support the decision of others faced with this dilemma to recommend and perform CEA in otherwise acceptable surgical candidates.