

EDITORIAL

ACST-2!! Carotid artery stenting is equal to Carotid artery endarterectomy in asymptomatic patients during a 5-year process

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Carotid disease constitutes a very intense field of research and evolution for the vascular surgery community. Since the very beginning of carotid endarterectomy's (CEA) application which offered an interventional solution to the problem of carotid stenosis^{1,2}, there has been technique improvements. The appearance and application of carotid angioplasty and stenting (CAS) as well as the improvement of the medical treatment's section improved treatment results³. This improvement is always accompanied by questions for the most appropriate technique selection at each case⁴, since complications in case of failure induce grave consequences for the patient. The ACST-2⁵ trial is coming to enrich data concerning the treatment of asymptomatic patients with a high degree of stenosis, by comparing in a randomized prospective way CAS to CEA in a wide sample of patients able to be treated by both techniques and also presenting post-operative results in the mid-term period (up to 5 years)⁶. It is important that peri-operative, major stroke and death had been reported at 1% without any statistic significance between the two groups while even the lower severity neurologic episodes had presented minor only differences between the aforementioned groups. During the follow up period, CAS and CEA are produce stroke with a frequency of 0.5% per year at both groups, and manage to decrease up to 50% the stroke incidence in comparison to conservative treatment of asymptomatic patients with high degree carotid stenosis during the 5 years period post-operatively.

It is of great importance the fact that the trial has been completed at centers experienced in applying the various techniques but not in high volume centers of excellence as it emerges from cases recruitment. In addition, it seems that CAS interventions have been performed *lege artis* by vascular surgeons as well as by other specialties. This indicates that with proper training and experience, excellent results can be

achieved by the intervention itself (CAS or CEA) but also correct selection of patients suitable for both treating techniques is necessary. This evidence-based indication is perhaps one of the most important parameters to achieve trial's excellent results.

By empowering data of CAS as main treating choice, strong motivation is provided to the industry in order to evolve and improve the materials used during CAS procedures (brain tissue protection filters, carotid stents, etc.) as well as collect data for the proper selection of the embolic protection at each case according to the anatomical and morphological characteristics. The initial goal is the further decrease of lower severity's neurologic complications which carry unknown, until today, contribution to the long-term neurologic status of the patient. Certainly, in favor of the benefit of CAS, as positive factors can be accounted shorter time of hospitalization, local anaesthesia and absence of nerve injuries during carotid dissection, thus those characteristics make CAS really popular to the patients^{7,8}. Those advantages gain a special role after the recent evidence of statistical equation for the major neurological and cardiological complications between interventions. Of course, for the further strengthening of the CAS indications, it is necessary to apply CAS to asymptomatic patients, which is something that the current comparative prospective trials already aim to prospectively compare it with the optimal conservative approach. Especially the asymptomatic group of patients with very high degree of stenosis (75-90%), is a parameter of great necessity.

In conclusion, we can assume from ACST-2 that based on direct and long-term results of a 5-year period, the application of CAS to asymptomatic patients is safe as much as CEA and thus possibly safer than medical treatment. CAS can be applied after a cautious patient's selection⁹, and mostly by well trained vascular surgeons, with excellent technical success and low percentage of complications for the treatment of asymptomatic high grade carotid stenosis.

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