

Emergency versus Elective Carotid Artery Stenting: Comments on a Single-Center Experience

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Dear Editor,

I read with great interest the recent report by Kaya *et al.* comparing emergency versus elective carotid artery stenting (CAS) in symptomatic carotid stenosis (1). This single-center retrospective study of 115 patients (96 elective, 19 emergency) provides timely real-world data on a critical question in stroke care. In line with the authors' conclusions, I note that although the emergency CAS group had more high-risk features (e.g. higher rates of ulcerated plaque, pre-existing infarction, carotid dissection and thrombus) the 30-day outcomes (myocardial infarction, extracranial complications, mortality) did not differ significantly between emergency and elective cases (1). Kaya *et al.* thus demonstrate that carefully selected emergency CAS in symptomatic patients can be feasible with acceptable short-term safety (1). The clinical relevance of this comparison cannot be overstated. Symptomatic carotid stenosis carries a high stroke risk, and guidelines recommend prompt revascularization – generally within two weeks of the index event – to prevent recurrent stroke (2). In high-surgical-risk patients (younger age, challenging anatomy, or major comorbidities), CAS is recommended as an alternative to endarterectomy (2). Thus, understanding when and how to perform “urgent” CAS is crucial. Kaya *et al.*'s focus on emergency versus elective CAS directly addresses this need. The authors appropriately highlight that in practice some patients cannot await elective scheduling – for example those with acute neurologic deterioration or tandem intracranial carotid occlusions. Recent studies of tandem-

lesion stroke patients likewise support urgent CAS: for instance, a large population-based cohort (SECURIS study) found that emergent CAS during thrombectomy significantly improved 90-day and 1-year functional outcomes without increased hemorrhage or mortality (3). This bolsters the notion that, in experienced hands, immediate CAS can enhance cerebral reperfusion and long-term recovery in acute stroke. I also commend several strengths of Kaya *et al.*'s work. The study uses contemporary “real-world” data from a high-volume center, reflecting current practice patterns. Notably, the authors stratified results by stenosis severity (including $\geq 90\%$ lesions) and detailed plaque characteristics (ulceration, thrombus), which many prior series have not. Such granularity is valuable because vulnerable plaque features are known predictors of embolic risk during CAS. By distinguishing these factors, the authors provide insight into why emergency CAS patients were at higher baseline risk. Moreover, all cases involved embolic protection devices and modern stenting techniques, consistent with emerging best practices (2). I agree with the authors' cautious interpretation and offer a few constructive considerations. By design, this is a retrospective cohort with a relatively small emergency CAS subgroup (n=19). Such limited numbers (common in emergency-stenting series) can lead to type-II error in detecting differences. Selection bias is also inherent: patients deemed too unstable or frail may have been excluded, and outcomes may reflect treatment by a dedicated stroke/CAS team. In addition, the follow-up in this study appears

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short; longer-term data (e.g. 1-year stroke-free survival, restenosis rates) would further contextualize safety. For example, Nakagawa *et al.* found that urgent CAS for “stroke-in-evolution” yielded good discharge outcomes in 10 patients (4). But larger series are needed to confirm durability. Similarly, although Kaya *et al.* did not find excess periprocedural complications, randomized trials are lacking. Systematic reviews caution that very-early CAS (<2 days from symptoms) may carry higher risk than delayed intervention, suggesting that strict patient selection and timing remain paramount(5). These points align with the authors’ own conclusion that multidisciplinary evaluation and future prospective studies are needed. In summary, Kaya *et al.*’s report makes an important contribution by demonstrating that, in a real-world setting, emergency CAS can be performed safely in selected high-risk patients, with outcomes comparable to elective cases (1). This complements other recent evidence that thoughtful “urgent” CAS-with embolic protection and aggressive medical therapy-can be beneficial for acute carotid stroke without prohibitive risk. I applaud the authors for addressing this clinically urgent question, and concur that careful patient selection and technique are essential. I look forward to larger multicenter and prospective studies to refine the timing and indications for carotid stenting in the acute setting.

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