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In-stent restenosis risk factors following carotid artery stenting. Authors' reply

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We appreciate your interest in our article titled "Predictive significance of the prognostic nutritional index for in-stent restenosis following carotid artery stenting" and your insightful comments on risk factors for in-stent restenosis (ISR) after carotid artery stenting (CAS) [1]. It is our pleasure to address your points and further clarify aspects of our study.

In our study, chronic kidney disease (CKD) was defined in accordance with widely accepted clinical criteria, which encompass either a glomerular filtration rate of less than 60 ml/min/1.73 m² or structural abnormalities of the kidney lasting for at least 3 months. This definition aligns with international guidelines and enables the identification of patients with CKD based on more comprehensive renal function assessments beyond serum creatinine alone [2]. While we acknowledge the interquartile ranges for serum creatinine in ISR(+) and ISR(–) patients were within normal limits in our study, CKD was defined based on clinical diagnosis rather than serum creatinine levels alone, as lower levels of renal function impairment could still bear clinical significance for ISR. Although CKD did not emerge as an independent ISR predictor in our model, other studies have recognized CKD as a significant risk factor for ISR in various vascular interventions .

The role of diabetes mellitus (DM) in influencing the risk of carotid in-stent restenosis (ISR) is a crucial aspect to consider [3]. We value your insight regarding the seeming discrepancy between similar DM prevalence in both the ISR and non-ISR groups and the significant association found in our multivariable analysis. Although the chi-square test did not show a significant difference in DM rates between these groups, including DM in a multivariable model remains essential. DM is a recognized risk factor for atherosclerosis and may interact with other factors, affecting ISR indirectly. By accounting for age, sex, and smoking status, multivariable analysis helps reveal potential relationships between DM and ISR that might be obscured in univariate analysis. Therefore, despite the lack of significance in the χ^2 test, the multivariable model's finding suggests an interaction effect that becomes evident only when other factors are simultaneously considered. This result highlights the complex and potentially masked role of DM on ISR risk in a multifactorial context. Additionally, it is possible that the DM patients in our study had good glycemic control, which could have influenced ISR outcomes.

In our study, the initial prescription of dual antiplatelet therapy (DAPT) and statins was based on current clinical guidelines, considering each patient's cardiovascular risk profile and procedural findings. After CAS, DAPT with aspirin and clopidogrel is recommended for at least 1 month unless contraindications or adverse effects arose [4]. During follow-up, adherence to DAPT and statin therapy was assessed, and adjustments were made according to patient tolerance, risk of bleeding, and emerging clinical needs. High-intensity statin therapy (e.g., atorvastatin 40–80 mg or rosuvastatin 20–40 mg) was recommended for patients with elevated cholesterol levels or high cardiovascular risk, in accordance with current guidelines[5]. Patients were monitored every 3 to 6 months during the follow-up period, and lipid levels were reassessed at each visit. If target low-density lipoprotein cholesterol levels (typically <70 mg/dl for high-risk patients) were not achieved, statin dosage adjustments or the addition of other lipid-lowering agents, such as ezetimibe, were considered. This structured approach was intended to ensure optimal lipid control and reduce the risk of ISR development throughout the study duration.

Given the high prevalence of coronary artery disease and the advanced age of our patient population, we acknowledge that atrial fibrillation (AF) risk was indeed elevated in our cohort, and anticoagulants were prescribed for patients with an indication for AF management. It is possible that anticoagulant therapy may have influenced ISR outcomes, as anticoagulation could impact the thrombotic and inflammatory pathways involved in restenosis development. However, due to the observational nature of our study, it was challenging to isolate the effects

of anticoagulation on ISR independently from other factors. Future studies with a more controlled design could help clarify the specific impact of anticoagulant use on ISR in CAS patients with high AF risk

Thank you again for your valuable feedback and the opportunity to address these points. We hope our responses provide a thorough understanding and look forward to continued discussion on this topic.

Article information

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