In the perioperative medicine special issue (March 2021), we had the opportunity to discuss the current evidence for the management of patients with myocardial injury after noncardiac surgery (MINS) and perioperative atrial fibrillation (POAF). A specific concern was raised regarding the use of cardiovascular medications, especially Aspirin (ASA) and statin, to prevent further cardiovascular complications in the setting of patients with end-stage renal disease (ESRD) and dialysis suffering MINS. Our article intended to review the current evidence on MINS and POAF. However, to cover the broader interest and because of limited space, we could not include the challenges that specific subgroups of patients could pose, such as patients on dialysis. Although patients with ESRD are a minority of patients undergoing surgery (<3%), they are at higher risk for mortality and clinical complications, particularly perioperative cardiovascular complications.

Patients with ESRD on dialysis have been underrepresented in randomized controlled trials (RCTs) on cardiovascular medications, in general, and in the perioperative setting. As we pointed out in our review article, there are no RCTs on MINS management apart from the MANAGE trial, which excluded ESRD patients. Therefore, recommendations about the use of these medications (i.e., ASA and statin) on dialysis patients with MINS should be based on the best evidence available. Although these patients have high bleeding risk, especially in the perioperative setting, they are also at high risk for postoperative cardiovascular outcomes. In the nonoperative setting, dialysis patients are more likely to have atypical clinical presentations and are less likely to receive evidence-based therapies after presenting with an acute coronary syndrome (ACS). Available data suggest that ASA and statin therapy should be considered in chronic kidney disease patients presenting with ACS in the nonoperative setting to reduce the risk for future cardiovascular events. Moreover, a recent meta-analysis of seven RCTs and two prospective cohort studies showed that the use of a single antiplatelet therapy did not increase the risk of bleeding in dialysis patients (relative risk, 0.88; 95% confidence interval, 0.51−1.50; I² = 0). Data on statin therapy in patients on dialysis is inconsistent, and a recent observational study provides some evidence of the benefit of statin initiation among dialysis patients.

It is unlikely that dialysis patients would have a lower risk for subsequent cardiovascular events after a MINS episode. The key considerations for this population in the perioperative period are the bleeding risk, and the interpretation of the troponin elevation considering dynamic changes in the troponin values to characterize an acute event, as opposed to chronic troponin elevation. We recommend an individualized approach, with a careful balance of the risk and benefits, considering the limited available evidence among patients on dialysis when implementing treatment strategies for MINS. A multidisciplinary approach involving a nephrologist, ideally the patient’s nephrologist, in the management of these patients should be recommended.

References
Managing Myocardial Injury after Noncardiac Surgery