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CORR Insights

CORR Insights®: Risk of Post-TKA Acute Myocardial Infarction in Patients With a History of Myocardial Infarction or Coronary Stent

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Where Are We Now?

As the demands for healthcare services have increased, and the applicable resources have become more expensive and/or scarce, risk stratification has evolved into a critical strategy for optimal patient management, as well as a tactic for forecasting a patient's chances of success or complications during an episode of care. Utilizing detailed checklists of comorbidities and socioeconomic status, stakeholder organizations such as the American College of Cardiology, the American College of Surgeons National Surgical Quality Improvement Program, and the American Joint Replacement Registry have produced guidelines or calculators that help define statistical ranges of risk for various complications and poor outcomes after surgery for patients with similar characteristics [1, 2, 4]. These tools have assisted surgeons in the informed consent process, and also in their decision making as to when and if to recommend surgery. A weakness in the current risk-stratification methodologies is the relative lack of accuracy and specificity in predicting complications and readmissions for any given patient [3].

Where Do We Need To Go?

One hopes that improved risk stratification will lead to reduction of the most-serious postoperative complications such as acute myocardial infarction and death. Also, the overall economic burden and human suffering associated with perioperative complications should be diminished. This retrospective case control study by Kumar et al. provides additional predictive guidelines for those patients with cardiac events prior to elective TKA. As a result of their analysis, the authors concluded elective TKA should be performed at least one year after acute myocardial infarction or stenting for optimal risk reduction.

This study is a potential improvement in our ability to categorize high risk patients before elective TKA and then schedule their knee surgery at the safest time relative to previous cardiac events. We will need additional dependable patient-level information,

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predictive modelling, and consensus-based best practices to manage our patients' perioperative modifiable risk factors in the future [5].

How Do We Get There?

As clinicians, we must be responsible stewards of society's healthcare resources; and, for elective surgery in particular, we have the professional obligation to optimize our patient's perioperative health status to give them the best chance of an excellent outcome with the lowest risk. More-robust and larger patient-population databases and registries and prospective analyses will improve our ability to accurately risk stratify our patients prior to procedures. The rapid spread of electronic health records, various registries, and the recent government mandated implementation of ICD-10 should facilitate these efforts. Consensus-derived definitions of complications and best-practice management of comorbidities, combined with accurate coding and data entry will ultimately help reach our goal: Better predictive and planning capabilities on behalf of our patients.

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