Preoperative Medical Testing Before Cataract Surgery: 
Clearly Crucial or of Murky Merit?

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Story from the Front Lines
A 63-year-old man with past medical history of COPD, tobacco dependence, and HTN presented for preoperative evaluation prior to cataract surgery. The patient’s records were reviewed and revealed no prior history of stroke, MI, heart failure, or diabetes. A pharmacologic nuclear stress test was performed for chest pain two years prior and was normal. The patient reported feeling well and denied chest pain or dyspnea on exertion. Though there was no clinical indication for further cardiovascular testing, an ECG was performed as part of routine pre-operative screening. The ECG showed T wave inversions that were new. This finding prompted an exercise stress echocardiogram – which did not demonstrate any areas of myocardial ischemia though was associated with supraventricular tachycardia at a rate of 180 with peak exercise, dyspnea with exertion, and oxygen desaturation to 84%. The echocardiogram demonstrated mild enlargement of both atria and moderate right ventricular enlargement, consistent with tobacco-related pulmonary disease. Holter monitoring, initiation of beta blockade, and a hospital setting for cataract surgery was recommended. However, the patient reported significant frustration about the delay in his surgery, stating he felt good except for the difficulty seeing related to his cataracts. He also voiced frustration about the addition of a medication prompted by what he felt was an unnecessary pre-operative evaluation.

Teachable Moment
Pre-operative cardiac risk assessment before non-cardiac surgery is an important intervention to reduce risk of postoperative mortality and morbidity, particularly that due to perioperative myocardial infarction. However, the risk of perioperative cardiovascular events is not the same across all surgeries and all patients. Therefore, preoperative cardiovascular testing may be warranted depending on several factors. Preoperative testing brings with it additional cost and the risk of unnecessary follow-up testing and treatment. Furthermore, whether the testing is motivated primarily by a desire to help the patient or to alleviate provider and institutional malpractice fears is an ongoing debate. Developing and agreeing upon a standard preoperative assessment protocol is an evolving, multidisciplinary area of interest that should seek to provide valuable pre-operative interventions that reduce risk while at the same time seek to reduce wasteful and potentially harmful testing.

Cataract surgery is a common surgery for elderly patients with multiple co-morbidities that may put them at a higher risk, prompting more preoperative testing such as an electrocardiogram. The Department of Health and Human Services and the Agency for Health Care Policy and Research published Clinical Practice Guidelines in 1993 on the management of cataracts in adults, noting that “appropriate” preoperative testing should be undertaken but did not specify who should receive what testing. However, given the low risk of cataract surgery, the value of such testing is debatable. One large, randomized, controlled study found that perioperative morbidity and mortality were not reduced by routine preoperative medical testing; rates of perioperative events such as
hypertension, arrhythmia, hospitalization, and death were similar between patients who underwent routine testing and those who did not. Given the evidence showing no demonstrable benefit of routine preoperative testing in patients undergoing cataract surgery, this common practice should be called into question.

While a failsafe risk stratification tool is lacking, national guidelines, as published by the American Academy of Ophthalmology and the ABIM’s “Choosing Wisely” campaign, are vague at best, leaving clinicians confused about what is best for their patient. While stating that routine preoperative testing is not necessary for all, ambiguous suggestions of testing in the setting of common chronic conditions such as heart disease, rather than with a new clinical concern such as chest pain or tachycardia, could lead to the continuation of testing that is unlikely to help patients. A more critical evaluation and stratification of patient risk preoperatively could protect low risk patients undergoing low risk surgery from costly, unwarranted, and potentially harmful preoperative testing.

At first glance, the above case appears to exemplify benefit from preoperative cataract testing. A diagnosis of exertional SVT and treatment with beta blockade prompted by asymptomatic testing occurred as a direct result. However, neither this diagnosis nor treatment would have changed this patient’s perioperative risk for cataract surgery, nor lead to reduction in his risk of mortality. For his part, the patient continued to deny dyspnea on exertion. It is unclear to what extent the SVT was a recurrent issue or whether the episode of SVT during the stress test was an isolated event.

While clinicians often chase down lab values and diagnose asymptomatic conditions, a step back to a broader clinical picture, incorporating the individual patient’s health and wellness within the context of available evidence, often deems these interventions unnecessary. Reduction of suffering, morbidity, and mortality are important endpoints of evidence based interventions. That ultimate question of how to benefit the patient most, driven by his risk characteristics and the preceding evidence, is what challenges and rewards a clinician.

References


