

Surgery shortly after an acute illness with troponin rise

A 62 year old man with insulin-dependent type 2 diabetes is awaiting surgery in ten days for cervical neuropathy (cervical foraminotomy). Two weeks ago he was admitted to hospital after an episode of severe gastro upset in diabetic ketoacidosis. He recovered well with conventional treatment of rehydration and insulin infusion, but was noted to have a troponin rise to 6500. A coronary angiogram shortly afterwards showed no acute lesion (i.e. thrombosis or stenosis or suggestion of plaque rupture). Two weeks later the patient is feeling well and 'back to normal':- he reports that the day before clinic visit he climbed Mount Tomaree "in twelve minutes" (!). The patient is on now anticoagulants and awaiting cardiology follow up.

Question: - Should surgery be delayed after such an acute illness?

Discussion:- The patient has made a very good recovery, however there is general consensus (in the absence of evidence) that it would be inappropriate to go ahead with surgery within 6-8 weeks of the myocardium being "stunned" such as during this episode. But there is no evidence to base this opinion.

After discussion, the coronary angiogram was re-examined:- Although there were no large vessel lesions, there was widespread small-vessel disease, typical of a patient with long-standing diabetes. It is unsurprising that the patient had a large troponin leak in the context of severe systemic illness.

Question: - Is there a role for BNP and Troponin assay? The recent Canadian cardiology guidelines propose BNP and Troponin for assessment and for risk stratification in all patients over 65, and patients over 45 with risk factors. This is 'elective' surgery, and risk stratification may be useful for shared decision making purposes.

Discussion: - Given that the patient's exercise tolerance has returned to normal, it would be difficult to imagine that the BNP would be anything but normal. Therefore it is difficult to justify. Pragmatically, BNP assay is not funded by MBS, and would be at cost to the patient. Troponin assay may be more appropriate. It is recognised that some patients with microvascular heart disease have an ongoing troponin leak and that this is associated with adverse perioperative outcomes. Thus a preoperative troponin assay may aid preoperative risk assessment and shared decision making. It may also be useful as a 'baseline' in case someone does a troponin post operatively. Finally, and pragmatically, given that the patient is having cervical neurosurgery, there needs to be a clear understanding that if the patient does have a further cardiac event immediately postoperatively that anticoagulation (and thrombolysis) is contraindicated.