# "From the Trough"

## Perioperative Interest Group Notes

Based on Cases discussed at the Weekly PIG Clinical Meeting on 3rd September 2020. Publication date 3rd September 2020.
Website: www.perioptalk.org

*The imperfect opinions in these reports are only meant to stimulate discussion: - they should not be considered a definitive statement of appropriate standards of care.*

**TOPIC 1:** **Roux-en-Y type bypass v. Whipples procedure**

A 71 year old diabetic male for a Whipples.

Background

- Biliary obstruction - 2 episodes of post-ERCP septic shock, ? cholangiocarcinoma.
- PHx: Type 2 DM (diet controlled), CKD, PUD, biliary sepsis with type II MI (trop ~90)
- Ex tol: mobilises with walking stick
- Social: ex-smoker, ETOH abuse, depression.

Investigations

- Anaemia: Hb 96g/L - ferritin 276, t'sat 5%
- Renal function normal. Liver function deranged secondary to biliary obstruction.
- Echo - LV systolic function normal, mild MR, mild/mod RV enlargement, PASP 40mmHg
- ECG - atrial tachycardia and RBBB. Taken when unwell with sepsis
- Albumin 23

Concerns

- Major surgery in an elderly patient with multiple comorbidities
- NSQIP mortality risk 3% (with additional risk added) but much higher risks of discharge to nursing home/rehab (19%), serious complications (35%) and functional decline (55%). Note that the ACS-NSQIP now has a geriatric outcomes that include postoperative delirium, functional decline and new mobility aid use.
- Nutrition deficiencies with alb 23 (despite weight 90kg). This has been associated with elevated perioperative risk in previous trials (eg VISION trial)
- ? Time for optimisation and with what goals
- ? Cardiac status adequately understood, given recent type II MI. Non-invasive stress testing may help quantify risk, however those present argued whether it would change management in this patient who needs 'urgent ' cancer surgery. Debate about best alternative non-invasive stress test:
    - Doubtamine stress echo – excellent test, though difficult to get access in public sector,
    - Sestamibi – very sensitive, additional costs and expense. Relatively accessible at JHH.

- CT coronary angiogram – only accessible by referral from Cardiologist. Older patients possibly have higher false positives due to calcifications. Possibly a good test in atypical chest pain as will image thorax for alternate sources of chest pain. Radiation exposure.
- CPET – will provide an exercise ECG test and give some information about current physical status.

Plan

- Discussed with surgeon - ok to delay 4-6wks. Agreement that less invasive surgical option most suitable. In this case a Roux-en-Y bypass procedure will relieve symptoms, though not curative. Patient in agreement and GP agrees with plan.
- Nutrition optimization, with aim of normalizing albumin.
- CPET for risk stratification, lung function testing, cardiac stress testing, and to guide prehabilitation at Kaden Centre https://kadencentre.org.au/
- Updated ECG

**TOPIC 2:** **Open Radical Nephrectomy**

58 year old male for open radical nephrectomy

Background

- Left renal tumour, likely cancer, incidental finding, large size making it unsuitable for radio frequency ablation.
- Obese - 170 kgs, BMI 54, previously has seen dietician without success.
- Reduced exercise tolerance (knee pain + SOBOE), SOB after 1 FOS, DASI suggested 5 METS (????)
- Nocturnal cough, non-severe, nil other cardiac symptoms. Trialling inhaler from GP. CT chest (non-HRCT) showed no clear cause.
- High risk for OSA based on STOPBANG

Discussion

- Challenges of non-invasive cardiac testing in morbidly obese patients due to body habitus and mobility constraints.
- Likelihood of successful and meaningful change, ? Worth delaying cancer surgery.
- What type of exercise is achievable for this sized patient?

Plan

- Discussed with surgeon - ok to delay surgery for up to 3 months
- GP to arrange sleep studies
- CPET testing (bike weight limit 200kg, no hand crank testing options available at JHH and not studies in setting of surgical risk assessment regardless). CPET will be useful for risk stratification, will be a form of cardiac stress test and provide pulmonary function testing, will guide high intensity interval training at the Kaden Centre, and will demonstrate to the patient the physical challenge of the perioperative period.
- GP to refer to nutritionist
- Discussion around advanced care planning was raised. There were strong opinions that despite this man's age he is a high-risk surgical candidate. The ACP is useful in case of patient sustaining complications following surgery, and may also helps to make the patient realise the gravity of their health situation, allowing us to capitalise on this teachable moment.

**TOPIC 3:** **Lap Cholecystectomy**

43 year old woman for laparoscopic cholecystectomy.

Background

- Chronic pancreatitis - multiple severe episodes requiring ICU. ? Gallstones contributing to pancreatitis episodes. PEG fed due to nausea and vomiting with any oral intake due to pancreatitis.
- Type 3c diabetes secondary to chronic pancreatitis. High doses of insulin required. Somewhat unclear picture in terms of large insulin requirements. May be partly secondary to chronic infection from pancreas/biliary tree therefore unlikely to fully resolve until surgery to achieve source control. Extensive endocrine involvement. HbA1c > 12% earlier this year, now reduced to 9.1%.
- Asthmatic and still smoking
- T5 spinal cord injury - wheelchair, nil autonomic dysreflexia
- BMI 23

Discussion

- ? Diabetes control now adequate despite HbA1c remaining above the 8.5% cutoff used in our departmental guideline - phoned endocrine team after meeting. They feel this patient is optimised and the HbA1c is unlikely to drop further.
- There was a suggestion that a glucagonoma or insulin antibodies could account for such high insulin requirements. This was discussed with the endocrine team. Their opinion is that this is extremely unlikely. Their assessment is that the HbA1c is due to patient's poor diet, and advised that all patients on insulin long term with have insulin antibodies.
- Awaiting phone conversation with surgeon to determine if they also feel the risk balance is in favour of proceeding with surgery at present (diabetes control v. Avoidance of further pancreatitis episodes).

**TOPIC 4: Cataract surgery (referred for consult by Opthalmologists)**

An elderly male patient, with end-stage COPD on home oxygen.

Background

- Commenced palliative care management in 2018
- Currently sits and sleeps in a mobility scooter due to dyspnea symptoms.
- Patient can still make simple meals but his cataracts are so severe that this necessary skill may be jeopardised soon without intervention. Carer comes to his house currently, but he may lose the capacity to live at home with further loss of vision. Patient was also previously a voracious reader and losing this skill has had huge impact on his QoL.

Issues

- Can the patient lie flat? - Really a surgical issue, as all local/topical/regional anaesthesia can be provided by the ophthalmologist and this patient will not be a candidate for any form of sedation. He lay flat in clinic for 8 minutes uneventfully, with SpO2 in mid 80s.

Discussion

- Patients may be semi-recumbent (~30degrees) however need adequate neck ROM to achieve a horizontal face, to allow surgery to proceed.
- Left eye is worse than right eye. Only one eye can be operated on during each surgical episode. Proposal to do left eye first, assuming some residual right eye function if any complications occurred. Also may be only appropriate to operate on one eye (ever) so this would provide him with best outcome. If all goes smoothly, may be appropriate to operate on second eye later on.
- Not appropriate to have any 'plan B' should this surgery fail or should a local or systemic complication occur. Thorough advanced care planning prior to surgery is a must.
- Overall it was felt to be appropriate to proceed with the surgery on compassionate and QoL preservation grounds by the majority of those present.
- This patient should not have observations taken postoperatively which are just likely to cause anxiety and a temptation towards unnecessary and inappropriate medical interventions. He will require someone to look after him at home post operatively.

**TOPIC 5:** **Current inpatient for hemicolectomy after recent CVA**

History:

Patient admitted to hospital with near-obstructing large bowel tumour.
Posterior circulation stroke while an inpatient (thought to be cardioembolic)

Question:

? Should the surgery be delayed to mitigate the perioperative risks due to the very recent stroke.
The patient is not currently anti-coagulated due to PR bleeding from tumour leading to anaemia.

Discussion:

- Evidence for these sorts of perioperative risks are based on 'big data'. Although useful, this evidence may not be exactly applicable to the individual patients' circumstances.
- The literature suggests that after a CVA, the risk of perioperative MACE decreases over time, with a nadir reached at 9 months (where the risk still remains elevated compared to patients without history of CVA, but it plateaus with nil further improvements). (see attached paper – Jorgensen et al 2014). Interestingly guidelines from the SNACC suggest 1-3 months delay for surgery post stroke (see attached SNACC guidelines). So there is conflicting evidence, and each case is likely unique.
- The risk is likely less for patients who have had a cardioembolic CVA (rather than an atherosclerotic CVA) ? due to the haemodynamic changes associated with the perioperative period being more significant in the context of know cerebrovascular atherosclerosis.
- To delay surgery would involve further temporary cessation of the patient's anticoagulation at that time, which would involve risks of another cardioembolic CVA.
- Would cerebral oximetry be useful in this patient to observe for intraoperative cerebrovascular events? Not likely useful due to:
    - Limited to a small area of cerebral cortex under the sensors
    - Only reflects the tissue oxygenation/perfusion of that local area

- Nil targets for optimisation if the patient's anaesthetic is already being conducted in a way mindful of cerebral oxygen and perfusion demands (as opposed to, for example, CEA under GA where it may guide shunt placement). Cannot abort this bowel surgery midway through!
- This situation is difficult and likely needs a surgical, neurology and anaesthetic consensus.

Postscript:
- Surgeon has deferred OT for 6 weeks. Neurology were eager to proceed now. Patient will have further review by surgeon and anesthetist in 6 weeks.

**TOPIC 6 Perioperative Blood Testing Guidelines**

- Request for feedback on new perioperative blood testing guidelines.
- These guidelines are in line with NICE guidance published in the UK .
- Our goal is to work with surgeons and within our department to minimise unnecessary testing which may be time consuming for the patient, costly, low yield, and misleading which cause unnecessary delays to surgery and anxiety for patients.
- See attached.