



“From the Trough”

Perioperative Interest Group Notes

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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: Heart or Leg?

Anaesthesia requested to be involved in multi-disciplinary discussion about perioperative planning for patient with significant coronary artery disease.

A 56 year old male presented to Cessnock Hospital for severe leg pain. On getting out of his car his pain turned into crushing chest pain.

Managed as Acute Coronary Syndrome. Medications included aspirin, clopidogrel and clexane. Other medical history included: Diabetes, current smoker.

Transferred to JHH for further management. Coronary angiogram demonstrated triple vessel disease with no stentable lesions.

Investigation of lower limb pain demonstrated a diabetic foot ulcer with signs of infection. Surgery included debridement and 2nd toe amputation with ongoing dressing and demarcation of necrosis. Investigations demonstrated significant peripheral vascular disease with 75% stenosis of popliteal vessels.

Questions:

- Should he have cardiac surgery first due to significant triple vessel disease? Will this improve healing of his leg wound?
- Should he have stenting of his lower limb first? This will require minimum 6 months of aspirin and clopidogrel prior to interruption. This will preclude elective cardiac surgery?
- Vascular surgery team requesting guidance on perioperative management should the patient develop myocardial ischaemia post operatively following lower limb stent insertion or lower limb washout.

Discussion: -

- Open wound and infection of foot mean that this patient is not suitable for elective/urgent cardiac surgery at this time – will need clearance of infection and healing of wounds to minimise risks of cardiac surgery.
- Note no ongoing cardiac symptoms on appropriate medical therapy (including dual anti-platelet medications) – This is likely the limit of available therapy in the absence of lesions suitable for stenting and contra-indications for cardiac surgery.
- Proceeding with vascular surgery and peripheral stenting on dual antiplatelets would be reasonable.
- If myocardial ischaemia develops perioperatively – the management should be as per acute coronary syndrome, with angiogram and possible angioplasty or stenting if appropriate, especially if newer territory ischaemia.

TOPIC 2: Total Knee Replacement – PFO

- 65 year female for elective THR.
- Background history included: Obesity, DVT (many years ago, not currently anticoagulated) and CVA (2011). Small residual effects of CVA include chronic arm pain.
- Patient notes reviewed on day of surgery. Noted by registrar that work-up for CVA in 2011 found PFO on transthoracic echocardiogram. Only mention of this PFO is in correspondence from Neurology team in 2011.
- No other cause of CVA could be found on investigations on intracranial vessels and there was no evidence of Atrial fibrillation. The patient was managed with monotherapy of clopidogrel and advised that they might consider closure of her PFO if she had a further CVA.

Discussion

- Is there evidence for PFO closure in this situation? What are the benefits of PFO closure? What are the risks of PFO closure?
- It would seem that at the time of this lady's CVA there was not evidence to support routine PFO closure due to risks outweighing benefits. Three trials published in NEJM in 2017 have changed this landscape (see attached vignette that discusses pros vs cons). Gore REDUCE trial, the CLOSE trial (Patent Foramen Ovale Closure or Anticoagulants versus Antiplatelet Therapy to Prevent Stroke Recurrence), and long-term follow-up of the RESPECT trial (Randomized Evaluation of Recurrent Stroke Comparing PFO Closure to Established Current Standard of Care Treatment), which have now shown that PFO closure reduces the risk of recurrent strokes.
- The pooled data suggests recurrent stroke risk of 5% at 4-5 years on medical therapy (mostly antiplatelets) vs 1.4% with PFO closure. The difference in risk relates to procedural complications (5.9%) with the majority being new onset AF with PFO closure which is usually transient. Interestingly most patients in the trials were < 60 years.
- It was noted that our department routinely anaesthetises for PFO and ASD closure lists in the cardiac catheter lab.
- Given patient's significant obesity and high risk for DVT a discussion with surgeon, a decision was made on the day to defer her case. She was discussed with cardiology team for consideration of PFO closure prior to her THR.

TOPIC 3: Whipple's procedure

69 year old male for Whipple's procedure for pancreatic cancer

Patient History

- SCC neck 2006 – radical neck dissection – Westmead Hospital. Radiotherapy post operatively.
- Non-smoker. Etoh 20g/day
- Recent presentation with painless jaundice. ERCP with brushing diagnosed pancreatic cancer. Stent in-situ.
- HARD card from ERCP in private sector – easy BMV. Grade 4 laryngoscopy with Mcgrath videolaryngoscope. Recommendation for AFOI next procedure.
- Recent PET scan demonstrated uptake in both pancreas head and in left neck. Due to see ENT for review of PET positive neck - ? recurrence.
- BMI 27.7. No diagnosed cardiac, respiratory or renal disease. Normal ECG and spirometry.

Given high risk upper abdominal procedure – patient referred for CPET testing.

- Maximal test with limitations due to knee pain predominantly
- Anaerobic threshold = 11.6mL/kg/min
- No ischaemic changes on ECG
- Comment that ventilatory response excessive during entire test, consistent with de-conditioning (lack of fitness!)

Discussion: -

- What is this patient's risk for surgery on the basis of above? High risk surgery, with no factors increasing risk on the history or examination. The CPET findings would put the patient in a low risk category for complications.
- Can this patient be improved? Limited capacity to defer urgent operation for cancer. Given his peak VO₂ was only 65% of predicted, and his excess ventilatory response during exercise – fitness training may have some role in minimising post-operative complications.
- Are any other investigations required? – He has had a ENT review and biopsy of tongue lesion (PET positive). The results showed no cancer.
- Peak VO₂ vs max VO₂ = how do they differ. Basically the VO₂ max requires multiple tests or plateau VO₂ to be reached and proven not to increase significantly with increased workload. Peak VO₂ is the limit reached on that test (See attached very detailed discussion paper for those Cross Fit gurus or those sitting part 1 exams!)

TOPIC 4: Laparoscopic Left Inguinal Hernia Repair

- 71 year old male for an elective laparoscopic hernia repair
- Previous medical history
 - COPD – FEV1 – 2.08L (62 % predicted)
 - Type 2 diabetes. Diagnosed nephropathy. HbA1c = 9.0%.
 - Obesity - BMI 33
 - Chronic kidney disease. Creatinine 262 mmol/L
- HARD Database – Grade 4 laryngoscopy direct (2012). AFOI 2015. Previous prolonged NM blockade with 8mg vecuronium after 2x 100mg of suxamethonium (took 75 mins for 2nd twitch to return to enable consideration of NMBA reversal) - ? cause.

Discussion: -

- Does he need surgery at all? Discussion around surgery when stable and elective vs emergency surgery if risk of incarceration. Risks are demonstrated to be higher in emergency situations. This patient's risks of complications from hernia should be discussed with surgeon to enable comprehensive discussion of risk vs benefits.
- Diabetes control poor. Our current guideline (consistent with Australian Diabetes Society guidelines) recommends elective surgery aim of HbA1c < 8.5%. They state to aim for HbA1c less than 8.5%, and consider cancelling surgery if HbA1c > 9%, which does leave a grey area at 8.5-9%!
- Given that this surgery was purely elective, this patient was suitable to be referred seen by their endocrinologist and had their diabetes management optimised. Their current HbA1c was 8.6% (right in grey area!) and after consultation with the endocrinologist it was recommended to proceed due to patient's history of hypoglycaemic episodes with tighter glucose control.