"From the Trough"

Perioperative Interest Group Notes

Based on Cases discussed at the Weekly PIG Clinical Meeting on 21st November 2019. Publication date 26th November 2019.
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: Not for surgery!

- Recent experience of a number of elective neurosurgery patients having surgery cancelled in the anaesthetic bay due to resolution of symptoms in the time between listing for surgery and date of surgery.
- Usually related to spinal pain with radiculopathy
- This seems like a waste of time and resources for patient and health care system.
- Is there any systemic way to avoid this?
- Some have suggested that the preoperative clinic should "check off" that the patient still has symptoms.

Discussion:-

- Is it the responsibility of the preoperative clinic to determine if patient's still need surgery? The clinic environment is already quite busy and time pressured. Do we really have to check that patient still wants operation, after all they have made the effort to travel to the clinic! Much discussion around the pros and cons of routine check that patient still wants surgery. It would seem reasonable to check that patient still has symptoms to warrant surgery during preoperative consultation – especially in elective surgery aimed at symptom control!
- If the patient no longer wants surgery what should we do? It was discussed that we may have limited skills to advise on whether surgery is still indicated or not. This is best advised by the surgeon or their trainees. This may require a phone call to the surgeon and/or a repeat appointment with the surgeon for further discussion. Those present shared both positive and negative experiences of this.

TOPIC 2: Go or no go?

- 85 year old male for Tracheostomy + left hemiglossectomy + forearm free flap for SCC of tongue.

- Medical history
  1. Mechanical mitral valve replacement (2012)
  - On warfarin – INR range 2.5-3.5
  2. TAVI (September 2019)
  3. PPM (May 2019). VVI.
  4. Atrial fibrillation
  - nil TIA/CVA. CHADS2 – 2-3 (low to intermediate risk).
  5. Peripheral vascular disease
  6. Bilateral TKRs

7. Chronic kidney disease – eGR 45 mL/kg/min

- Medications: Warfarin, allopurinol, atenolol, cholecalciferol, digoxin, magnesium, melatonin, alendronate, magnesium, paracetamol
- Current symptoms include: only being able to eat on one side of tongue, malodourous discharge from tongue and mild pain. Surgeon advised without surgery - 12 months life span
- Patient lives at home with partner, and is cognitively functioning well.
- Mentioned to the family High Risk and other options for symptom control

Discussion:-

- Should he proceed to surgery? High risk patient. SORT risk calculator (available free on app store and useable on the iphone, and is a useful alternative to NSQUIP risk calculator) estimates a 30 day mortality of approximately 25%. There was much discussion of risks of both morbidity and mortality.
- Would symptom management and palliative care be an option. Multiple opinions were expressed. It was recommended to discuss with surgeon, patient's cardiologist and patient about risks and options for management. Ideally the treatment plan would be congruent with the patient's wishes. Advanced care planning should be recommended given the high risk nature of surgery.
- Should surgery proceed the recommended approach from his cardiologist to interruption of anticoagulation is warfarin cessation and admission to hospital for heparin infusion preoperatively. This should cease 6 hours preoperatively and be recommenced post operatively in consultation with surgeons.

TOPIC 3: Historical anaphylaxis

- 67 year old male for dental clearance
- Past History
    - Functional platelet disorder – Glanzmann's Thrombasthenia (defect/deficit in GP IIb/IIIa platelet receptor). Minor bleeding is managed by TXA and major bleeding by platelet transfusions (ideally HLA typed, which requires 2 weeks notice).
    - Hypertension
    - COPD – 40 pack years smoking. FEV1 1.2L (40% predicted) with severe obstruction)
    - Angiodysplasia of bowel with frequent bleeding, including previous laparotomies and bowel resections)
    - Previous trauma with # ribs, liver haematoma and pericardial effusion (2007)
    - ETOH 70g/day

- In 2006 had a GA for laparotomy for bowel resection for ongoing bleeding. Noted to have intra-operative anaphylaxis. Managed with adrenaline infusion. No local ICU beds so transferred to another hospital intubated and ventilated. Recovered well and discharged home. No known immunology or allergy follow-up.

Discussion:-

- What caused his previous anaphylaxis? On review of the anaesthetic record from 2006, the anaesthetic registrar of the day (now a senior staff specialist and at PIG meeting!!) thought it was temporarily associated with cephazolin or platelets. However patient also had received multiple doses of rocuronium, and a host of other medications.

- Should he have further testing for cause of anaphylaxis prior to further surgery? There was discussion about having had further emergency surgery and anaesthesia without issues. Was it just a reaction to platelets? Interestingly the plasma tryptase rose to 39.5 (N <13.5). Unsure why testing had not been completed before now?
- Consensus was that the patient should be referred to anaesthetic allergy clinic at JHH for review and possible testing.
- Interesting footnote: CLIP 2 trial is recruiting around Australia. It is a trial of frozen platelets in Cardiac surgery. Able to store platelets for 12 months instead of 7 days. Current storage means up to 30% of platelets are discarded. Hopefully frozen platelets will reduce waste and allow extended storage of rare platelet groups.

TOPIC 4: Aortic stenosis – how severe?

- 73 years old male for L2 to S2 decompression and posterolateral fusion and L2/3 discectomy Medical History
- Ischaemic heart disease - CABG 2003
- Moderate Aortic stenosis – last seen cardiologist 2years ago. Plan to follow up with new echo in 18 months. Patient has not attended.
- Atrial Fibrillation - CHADS Score 3. Nil CVA. On rivaroxaban.
- Type 2 Diabetes Mellitus – HbA1c 6.5%. Oral hypoglycaemics.
- COPD due to smoking. FEV1 1.6L (55% predicted) with moderate obstruction
- Smoker – 50 pack years, stopped 1 week ago. ETOH – 30-40g/day
- Patient currently unable to walk, uses motorised scooter to mobilise.

- Patient cancelled on day of surgery due to not having had cardiology review – high risk patient, major surgery with risk of significant blood loss.
- Echo performed at JHH after cancellation
    - Mildly dilated LV with moderate global systolic dysfunction. LVH. Severe diastolic dysfunction.
    - Moderate pulmonary hypertension.
    - Calcific aortic valve with moderate to severe low flow, low gradient aortic stenosis. AV mean PG 19mmHg, AVA 1.1 cm2, DSI 0.21.

Discussion:-

- When should patient's with aortic stenosis have follow up. AHA guidelines suggest every 1-2 years for moderate stenosis and 6-12 months for asymptomatic severe aortic stenosis in the setting of normal LV function.
- Discussion about classification of severity of aortic stenosis. Aortic valve area and pressure gradient less reliable with left ventricular dysfunction. DSI (dimension-less index) more reliable for grading severity in this setting. DSI < 0.25 indicative of severe aortic stenosis.
- This patient has been referred back to his cardiologist for review prior to any consideration of elective surgery.

TOPIC 5: Pulmonary hypertension

72 year old female originally referred in August 2017 for a laparoscopic cholecystectomy due to life threating cholecystitis from gallstones.

- Medical history
    - Pulmonary hypertension and pulmonary stenosis. An echocardiogram performed on the day of consultation noted to have severe pulmonary hypertension.
    - Hypothyroidism – treatment with radioactive iodine
    - Osteoarthritis

- The patient had had an admission with cholecystitis. This was complicated by AF/atrial flutter, post ERCP pancreatitis and AKI. She had an associated troponin leak. A follow up stress test did not find ischaemia.
- Her case was discussed at the local perioperative cardiology meeting. A decision to progress to V/Q scan and right heart catheterisation to further characterise cause of pulmonary hypertension. The V/Q scan was normal. The Right heart catheter showed moderate pulmonary hypertension with mildly elevated LVEDP. Further medical treatment prior to surgery was undertaken.
- Unfortunately following further treatment and prior to her surgery her transthoracic echocardiogram demonstrated worsening pulmonary hypertension with septal flattening and signs of RV pressure overload. There was severe Tricuspid regurgitation.
- A TOE was performed to characterise the tricuspid valve. This demonstrated a sinus venosus ASD with anomalous insertion of the pulmonary veins into the SVC. She had a large left to right shunt, leading to increased pulmonary blood flow and pulmonary hypertension.
- She was referred for cardiac surgery and had a Warden procedure performed. This corrects the pulmonary venous drainage into the left side of the heart and corrects the atrial septal defect. This was undertaken 6 months ago.
- She was reviewed in the clinic 2 years after her initial consultation for the original operation. She now has normal pulmonary pressures.

Discussion:

- Causes of pulmonary hypertension discussed. Note that this patient had a left to right shunt that had led to RV dysfunction and pulmonary hypertension. Surgical repair of shunt had corrected her RV dysfunction and pulmonary hypertension.
- Patient now considered low risk for surgery! She is planned to have her next joint replacement at a rural referral hospital.