"From the Trough"

Perioperative Interest Group Notes

Based on Cases discussed at the Weekly PIG Clinical Meeting on 13th July 2017.
Publication date DAY MONTH 2017.
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: Preoperative Hypertension and Intraoperative Hypertension

78 year old women booked for de bulking of intra oral cancer (hemiglossectomy). Reasonably "healthy" and active but has blood pressure 195/94. LVH changes on ECG. Hypertension persists over time in clinic. Echocardiogram organised. Question:- Should surgery be postponed for blood pressure control and should blood pressure be treated? If so, with what?

Discussion:- Postponement would be inappropriate in view of diagnosis. Furthermore, recent opinions suggest that it is reasonable just to go ahead anyway. If blood pressure is to be treated, there is no clear reason to use anything other than the recommended first line treatment for community management (Thiazide, although this doesn't appear to be the most common practice). The recent UK guidelines on perioperative management of hypertension are particularly relevant to this. (*see references on Perioptalk.org site)*

There is increasing concern about the dangers of hypotension intraoperatively (D Sessler), and a recent meta-analysis and review suggests that ACEIs and ARBs should be withheld routinely on all patients having any moderate or major surgery due to the danger of persistent hypotension *(see references below).*

Salmasi V (et al) Sessler DI, Kurz A *Relationship between Intraoperative Hypotension, Defined by Either Reduction from Baseline or Absolute Thresholds, and Acute Kidney and Myocardial Injury after Noncardiac Surgery: A Retrospective Cohort Analysis* Anesthesiology 1 2017, Vol.126, 47-65

et al & PJ Deveraux. *Withholding* versus *Continuing Angiotensin-converting Enzyme Inhibitors or Angiotensin II Receptor Blockers before Noncardiac Surgery: An Analysis of the Vascular events In noncardiac Surgery patIents cOhort evaluatioN Prospective Cohort* Anesthesiology 1 2017, Vol.126, 16-27.

Around the group, there was ambivalence about the value of preoperative treatment of the blood pressure in this situation.

TOPIC 2: Colonoscopy after FOBT

A 75 year old for colonoscopy. FOBT had been positive and this was the only indication for colonoscopy. Patient has very significant IHD, OSA, diabetes, and hypertension. Previous CABG with blockage of all native vessels but patent LIMA to LAD on angiogram 9 months ago. Exercise tolerance 50 metres level walking, limited by dyspnoea and angina. Recent Echo 41%. Is it appropriate to go ahead with colonoscopy?

Discussion:- The likelihood of Colorectal cancer in a patient with a positive FOBT is generally estimated as approximately 5-10% (depending on age and other risk factors). In this case appropriateness was questioned. The patient would not be fit for colorectal surgery. There are no symptoms and so even though the risk of the procedure is very low, there is minimal or no benefit. Bowel preparation would pose a significant risk to the patient (more than the colonoscopy itself). The case was discussed with the referring gastroenterologist, who agreed to cancel the case and see the patient to discuss further. The patient understood the issue and was happy with this outcome.

TOPIC 3: Intrathoracic Stomach due to Diaphragmatic Hernia

A 46 year old with intrathoracic stomach in the left thorax. This appeared to be congenital. The heart was somewhat displaced due to the stomach in the chest. The patient gave a long history of "Asthma". He also had reflux, but this was controlled with PPI. He gave a history of recent onset of episodic dyspnoea. Patient was a difficult intubation in 2003 and has a full beard.

Questions/Discussion:-

1) *Does the intrathoracic stomach cause 'asthma'?* - Although this case is a diaphragmatic hernia, a recently postulated mechanism for dyspnoea in massive hiatus hernia is mechanical compression of the right side of the heart and vessels. The hiatus hernia compresses the left atrium, pulmonary veins and coronary sinus, restricting blood flow into the left atrium and thus causing a dynamic impairment in exercise tolerance, particularly in a postprandial setting. This phenomenon can be identified on echo, but may be overlooked if not specifically looked for (and some echocardiographers may not know of the issue). The mechanism may explain some unexpectedly severe cases of dyspnoea that was difficult to reconcile as being solely due to lung displacement/compression by the intrathoracic mass, as was previously considered to be the relevant pathological mechanism. (See Naoum C, Falk GL, Ng ACC, JAmCollCardiol 2011;58:1624-34 and Editorial by Marwick TH JAmCollCardiol 2011;58: 1635-36).

2) *Given the history of difficult intubation, should the patient be managed by AFOI?* - There were differences of opinions. Intubation using video laryngoscopy (not available in 2003) should be OK if it was 'difficult but possible in 2003. Rapid sequence is appropriate given the reflux and the intrathoracic stomach. A contrary opinion was that a fiberoptic intubation is clinically appropriate, good for skill maintenance, and is not particularly traumatic in this situation. "If it is traumatic for the patients you need to improve your technique".

3) *Should the patient shave their beard?* Mixed opinions for this patient. If the likelihood of difficult intubation was moderate it would probably be OK to leave it, particularly if the patient was resistant to shaving, but if the patient was happy to shave the beard than do without it. In other patients with definitely difficult intubation, (or high risk of infection associated with the beard), shaving the beard preoperatively could be considered mandatory.

"From the Trough"

Perioperative Interest Group Notes

Based on Cases discussed at the Weekly PIG Clinical Meeting on 20th July 2017.
Publication date 17th August 2017.
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: **Check Cystoscopies for how long?**

88 year old male for a "routine" check cystoscopy (a 6 monthly event). History of ischemic heart disease (CABG twice). Seen by cardiologist last year-angio at that time showed diffuse disease. Uses a 4WW around the house. Poor historian. Appears to be having recurrent falls/ collapse episodes and some possible episodes of loss of consciousness. Is it appropriate to proceed?
Discussion: - Given that preparation and expectations have been set, it was felt appropriate to go ahead on this occasion, but the case should be brought to the surgeon's attention to review the indications for ongoing cystoscopies.

TOPIC 2: **Severe lung disease**

An 86 year old for revision TKR reports a long standing history of severe lung disease following a rib resection for pneumonia at the age of 2, and extensive high dose radio therapy for breast cancer 40 years previously. In addition skeletal changes have produced a fixed thoracic cage and restrictive lung disease. She has long standing right lower lung collapse and interstitial lung disease. She had been referred from Preop assessment to respiratory physicians. FEV1 0.7 and FVC 0.9 (both 45% of predicted). She has developed increasing shortness of breath on excursion "dramatically" in the last 2 years or so. Now limited to about 100 metres but with minimal cough and no sputum production. The SAO2 93% on room air. The respiratory physicians feel that there is no potential to improve her. Cardiac investigations (sestamibi). show no signs of cardiac problems. Should surgery proceed given that it is revision surgery in someone with very limited exercise tolerance?

Discussion: - The lung condition cannot be improved. Knee replacement can be done more than adequately under regional anaesthesia, but the perioperative period can still lead to respiratory complications. Hence clarify that the surgery is clearly indicated despite her limited life expectancy and rehabilitation capacity. (Subsequent discussion with surgeon confirmed that despite her very limited exercise tolerance, she was becoming limited by the instability of her knee, and revision of the partial knee replacement would stabilise this. Was therefore felt appropriate to go ahead. The patient should be encouraged to complete an advanced care directive to clarify options if there are post-operative complications.

TOPIC 3: **Cancellation on day of surgery - appropriate?**

A 79 year old male booked for a laminectomy was seen in the Preop clinic and accepted for surgery the next day (distance patient). Spirometry at that time appeared to be normal. Subsequently, on day of surgery he was noted to have saturation of 90% on room air and the operation was cancelled for review of his respiratory state. He was subsequently reviewed by respiratory/general physician including exercise testing, CTPA, and echocardiogram. This showed stable emphysema with good exercise tolerance, although he desaturated at peak exercise to 88%. The respiratory physician noted that oximetry using finger probe gave a spuriously low reading, and that ear oximetry was normal. He suggested that monitoring should be by ear oximetry intraoperatively. (Follow up: - patient was reviewed again in the Preop clinic on day before surgery and the respiratory physician's findings were confirmed. Surgery proceeded more or less "normally" although the patient was kept in recovery for 4 hours, weaning from THRIVE to face mask oxygen. Saturation by ear probe was normal (confirmed by gases). Patient discharged on morning after surgery without problems.

Lesson: - cancellation on day of initial surgery was probably inappropriate. The saturation could have been further investigated by blood gases at the time. (Note that on other occasions blood gases performed in the anaesthetic bay have detected previously undetected C02 retention in chronic type II respiratory failure.)

TOPIC 4: **Clumped Platelets**

82 year old Female for incisional Hernia repair. Recurrent pathology reports of *'unable to measure platelet count due to clumping – suggest repeat*' noted on haematology reports. Question: - What is the significance of this?

Discussion: - (Clarified with Haematology) About 1% of the population generate platelet clumping due to an idiosyncratic reaction to EDTA. On most occasions a direct examination of the film by a haematologist will confirm (approximately) normal platelet numbers. Alternatively, the sample can be repeated using a citrate sample tube. Merely repeating the specimen (as is often done) will just repeat the finding of clumping of platelets.

NOTE:- Platelet clumping is not a reason to avoid regional anaesthesia or have any other concerns.

"From the Trough"

Perioperative Interest Group Notes

Based on Cases discussed at the Weekly PIG Clinical Meeting on 27th July 2017.
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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: Emergency Intubation for lung isolation.

A case of ruptured oesophagus with delayed management was discussed at length. Various approaches to airway management in the context of respiratory compromise and potentially soiled airway were considered (i.e. single lumen tube only, "rapid" placement of a double lumen tube, single lumen tube and bronchus blocker, Univent-type tubes with integrated bronchus blocker). Apparently a new single lumen tube with an extendable bronchus blocker including a built-in miniature camera has become available. The technique of 'blind' double lumen tube was placement was discussed by the older anaesthetists present. John Russell (of Adelaide) has produced a video demonstrating this technique which is now on You Tube. There is general lack of familiarity with the use of bronchus blockers, but some experience with the new equipment available (including Univent) suggests that maybe this may be a technique that needs to be used more. General conclusion:- "I need to do more thoracics".

TOPIC 2: Poorly controlled diabetes – how long to delay?

A 65 year old female for total knee replacement had been cancelled 6 weeks previously due to poorly controlled diabetes (HBA1C >10). She had been referred to the diabetic clinic at that time. Since then her long and short acting insulins have both been increased, and she has had education that has apparently (her report) improved her blood sugar control ("but I forgot my book today"). BSL in clinic after 6 weeks was 13 ("but it is usually under 10"). The orthopaedic surgeons had seen the patient 2 days beforehand and noted that she had thrush and blood sugars were still high and were not keen to proceed with surgery at this time.

Questions: - How quickly does the HBA1C respond to changing blood sugars? How long should a case such as this be postponed? (Referred to Sham Acharya, Head of Diabetes Service)

- *HbA1c reflects average BSL over the life of the erythrocyte, but is 'biased' towards more recent levels – i.e. it is more strongly reflects the last two weeks etc. Thus after two weeks, if diabetes control is dramatically improved, HbA1c will fall, but will still be 'higher' than the 'new' level. Pragmatically, it confirms semi-quantitatively that control has improved. The same principle would apply in reverse if control suddenly worsens. (The science on this is explained in more detail in pathology texts. There is also a remarkably long & technical explanation on Wikipedia.)*

- *In urgent situations, BSL can (theoretically) be brought under stable control within two weeks, and this would be a reasonable timeframe for semi-urgent surgery. Ideally, however, control should be stable for longer, such as 2-3 months, to optimise the patient.*

Discussion: - It was generally felt that in a patient with poorly controlled diabetes for a case such as this we should anticipate a longer delay to optimise management of a diabetes e.g. 3 months. It was noted that arthritic conditions may be exacerbated by poorly controlled diabetes due to increase glycosylation of connective tissue collagen etc. Just improving diabetes management may improve their 'arthritis' symptoms. We need to set expectations of both patients and general practitioners earlier. Referral pathways should make clear that poorly controlled diabetes is a contraindication to elective joint surgery. Given the lack of warning

to patients, it seems unfair to expect patients to accept delay due to diabetes when they could have had two years or more warning time to get this under control.

TOPIC 3: Multiple Comorbidities – Preparation for Surgery

A 68 year old for total shoulder replacement has scleroderma, CREST, renal impairment (eGFR 30), Ischaemic heart Disease (DES 2013) and other medical complications. She has pulmonary hypertension that has dramatically improved on sildenafil. Recent hematemesis and awaiting gastroscopy. The patient has already been cancelled multiple times for recurrent asymptomatic bacteruria, but it has now been agreed by surgeon and urologist this is now acceptably controlled with a preoperative course of antibiotics. The shoulder disability seems relatively 'minor' compared to her other issues.

In the clinic the most significant finding (apart from all the above) was the patients mood which was severely depressed (not suicidal).

Questions: - How should this be managed? Is surgery at this time (or any time) appropriate? Who should make this decision?

Discussion: -
1. Patient could be referred back to GP, however the GP may not be adequately familiar with hospital procedures and may not have access to resources for management of the complexities of this situation. The GP (alone) cannot be expected to manage everything going on with this patient.
2. Check her iron status: - inflammatory state may cause iron malabsorption which could be contributing to her mood.
3. There is particular risk in this procedure if she has an interscalene block that may cause phrenic paralysis, although her respiratory status (apart from pulmonary hypertension) was not a major concern.

Ideally there needs to be a multidisciplinary review to clarify the situation. What is the indication for the surgery? Is it pain or disability? What is the realistic benefit of this surgery? Therefore is the shoulder operation really appropriate? We need to clearly clarify with the patient: - Is fixing your shoulder going to really change your life? Has the patient (and the medical system) become fixated on this as a single thing that can be improved, even though it will not make a significant and or meaningful difference?

Where to next? The patient needs global assessment of all her medical issues, combined with assessment of function, ability to carry out tasks of daily living, and psychological issues. A rehabilitation physician may be the best person to carry out this assessment, particularly as they would also have a greater familiarity with the challenges of rehabilitation after shoulder surgery. Referral after discussion with surgical team. Based on this, then decide on appropriateness of surgery and planned prehabilitation. As this is an unusual request, a personal approach to the rehabilitation physician needs to be made to clearly explain the purpose of the referral so that there is clarity around this. Discussion with the GP to ensure there is clarity around the purpose of the referral as well.

"From the Trough"

Perioperative Interest Group Notes

Based on Cases discussed at the Weekly PIG Clinical Meeting on 3rd August 2017.
Publication date DAY MONTH 2017.
Website: www.perioptalk.org

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TOPIC 1: **A 24 year old anxious lady for minor urological surgery.**

Patient reported a needle phobia preoperatively. In the anaesthetic bay cannulation was performed without great difficulty; however the patient became pale, nauseous, pulseless (!) and then lost consciousness due to a severe vasovagal collapse. With difficulty (due to the bed design) she was laid flat and recovered concsiousness after about 2 minutes. Pulse returned but was slow at about 30 BPM. The patient had been fasting all day (till early afternoon) and blood sugar was 3.4. Question: - what is the appropriate management at this stage? Should anaesthesia proceed, and if so what should be done beforehand?

Discussion:- If the patient had been earlier in the list, it may be considered appropriate to delay the case for an hour or so to allow the patient to recover somewhat, give fluids and (perhaps) some glucose orally. The case should not be postponed altogether as this may just magnify the anxiety associated with hospitalisation and add to catastrophisation. 'Vaso-vagal instability' is not a reason to defer. In this case modest doses of both atropine and ephedrine were given, plus dexamethasone (which was to be given intraoperatively), and the case proceeded after a pause of fifteen minutes. This was felt reasonable.

TOPIC 2: **Frail aged:- different scoring systems**

An 88 year old female of 58kgs is booked for a total knee replacement due to pain. Functionally blind. Lives alone in public housing and is determinedly independent. NSTEMI in February 2016 with subsequent angiogram showing mild diffuse disease (not stented). Echocardiogram is reasonably normal with good LV function. History of peripheral vascular disease with a stent in the femoral artery on the proposed operative side more than two years ago, and with an excellent result. Airways disease with bronchiectasis, FEV1 0.8 litres. On clopidogrel, aspirin, metoprolol and a statin. NSQIP predicted mortality is 0.9%; P-POSSUM predicted mortality 6.4% The discrepancy between the two scoring systems was difficult to reconcile. The recent British NELA study has confirmed previous findings that P-Possum appears to overestimate risk at higher levels of morbidity but is generally accurate. Despite the P-Possum prediction, it was felt that mortality of about 1% was closer to truth. It was felt reasonable to go ahead with surgery, as long as the patient understood that there was significant risk and was prepared for this.

TOPIC 3: **A 59 year old Male with a Caecal Cancer**

A typical vasculopath patient. Presented with anaemia (Hb53) which resulted in a NSTEMI 4 weeks ago. Subsequent angiogram showed an 85% RCA occlusion and a non-critical LAD occlusion however the cardiologist had chosen not to stent. The case was reviewed at a cardiology meeting and it was suggested that the patient should have surgery before stenting (i.e. the coronary artery lesions should be stented but after surgery). Other history includes AKA in 2015, stoke in 2005, and Diabetes (HbA1C 7.2). He is continuing to smoke (30 cigarettes a day). Is the patient appropriate for a right hemicolectomy? NSQIP predicts a 7% risk of death.

Discussion:- Given the patients recent NSTMI was associated with the haemoglobin of 53, which has now been corrected, the NSQIP prediction may be a mild over estimate. Nevertheless the risk must be high. Apart from stopping smoking, there appears to be little room to modify risk. The tumour will lead on to further pathology including ongoing bleeding. Surgery should proceed however there needs to be a clear discussion with the family to ensure that they will not be surprised if there is an adverse outcome.

"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: Drug induced prolonged QT Syndrome

A 34yo patient is booked for thyroidectomy for cancer. She has chronic mental health issues (schizophrenia & anxiety) on multiple antipsychotic therapies including clozapine and haloperidol. Currently she is stable from a mental health point of view. Noted on EGC to have a prolonged QTc (0.567) but is otherwise well. EGC in 2012 did not show prolonged QTc on the same dose. Is it appropriate to change medication?

Discussion: - The stability of the mental health management is important to maintain. There is some urgency in the surgery. Therefore it is appropriate to proceed and maintain the MH therapies. It may be useful to have beta blockers or prophylactic magnesium available, but it would generally be reasonable to proceed carefully. The psychiatrist should be notified to consider reviewing the medication post operatively. (Cardiologists agreed).
REF *Booker PD, Whyte SD, Ladusans EJ. Long QT syndrome and anaesthesia Brit J Anaes 2003:90 (3): 349-66*

TOPIC 2: Chronic Pain Patient

A 36 year old Female had a lumbar internal fixation and post-operative pain management was difficult. She had been on multiple high level medications for pain management pre-operatively. Post-operative PCA using hydromorphone was largely ineffective. Low dose ketamine was added with some benefit, but pain management was clearly 'sub-optimal'. What should have been done?

Discussion: - In retrospect, it would have been appropriate to have referred the patient to a multidisciplionary chronic pain service (e.g. HIPS) for review of management. This would include medication review and introduction to non-pharmacological therapies including mindfulness, yoga, and pain counselling. The non-pharmacological techniques may have enabled rationalisation of the chronic medication and reduction of doses preoperatively, as well as establishing a proactive plan for perioperative pain management.

TOPIC 3: Knowing the patient

A 9 year old for tonsils and adenoids has 'learning issues' (no specific diagnosis), needle phobia and generalised anxiety issues. The parents have approached an anaesthetist as a personal friend for assistance with the case. (Coincidentally, said anaesthetist is allocated to the list anyway!) What are the ethical implications of this matter?

Discussion: - The primary ethical consideration of treating friends or relatives is the concern that emotional involvement with the patient may interfere with clinical judgement and thus performance by the Doctor. It would thus generally be taken as inappropriate practice to treat a direct family member, a close relative or a very close friend. A more distant social acquaintance would not be inappropriate as a patient as long as it was reasonably clear that any emotional factors would not cloud clinical judgement or performance at the time of patient care. There should also be clear consideration of effects on the patient's emotional state as well. In this case the relationship is not 'close' and it may help the child's emotional state, so is reasonable to agree. If the child had been allocated to a different list, working relationships with the 'normal' anaesthetist should also be considered – it may be preferable to be a 'friendly face' but not get involved as the primary anaesthetist.

TOPIC4: **New ECG Changes**

A 73 year old booked for a laminectomy is noted to have a "new" left bundle branch block. There are no symptoms currently or in the history to suggest when this may have developed. How strongly should the patient be evaluated? (This patient had been referred to a cardiologist and a normal sestamibi and an echo cardiogram had resulted).

Discussion: - In general, ECG findings should only prompt a careful evaluation of the patient's history and examination findings. ECG changes alone are not necessarily an indication for "aggressive" cardiovascular evaluation. In this case, it was probably unnecessary.

TOPIC 5: **Intralipid rescue for local anaesthetic systemic toxicity (LAST).**

In recent local discussions, the validity of evidence for intralipid rescue has been challenged. Why?

Discussion:- Despite being included in authoritative guidelines currently being used for anaesthetic emergency training purposes, the evidence for intralipid rescue is not as robust as is commonly perceived. Although some are strong advocates, others regard the evidence as weakly positive for bupivicaine toxicity but very questionable for other local anaesthetics (see References).

Rosenberg PH Current evidence is not in support of lipid rescue therapy in local anaesthetic systemic toxicity Acta Anaesthesiologica Scandinavica 2016; 60:1029–1032

Weinberg G Current evidence supports use of lipid rescue therapy in local anaesthetic systemic toxicity Acta Anaesthesiologica Scandinavica 2017;61: 365–368

One frame work for decision making in this situation is to consider the 4 R's and 2 E's. Is the proposed treatment scientifically rational? Is it clinically reasonable? What are the risks of not proceeding with treatment, and are there foreseeable risks for the treatment? What are the resource implications? What is the evidence? Are there any ethical considerations? In an acute clinical crisis situation decisions must be made. If something appears to be scientifically rational and is clinically reasonable, without great foreseeable risks, and no great resource implications, it may be appropriate to use a therapy without a great deal of evidence backing it. Nevertheless there should be recognition that the evidence is marginal. One potential risk is that too much focus may be given to implementing a therapy in the expectation that this will be a "magical" cure, which may distract attention from simple evidence-based therapy such as cardiorespiratory support.

Ref:- *Kerridge RK Saul WP. The Medical Emergency Team, Evidence Based Medicine and Ethics Med J Aust 2003;179:313-5*

"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: A Strange Diagnosis of Anaphylaxis

Patient presents for shoulder surgery. In 2000 during previous surgery he had an episode of significant hypotension which was later investigated by an immunologist. He was tested for all the anaesthetic agents used and the antibiotic, but not latex or chlorhexidine. This led to a diagnosis of anaphylaxis, although tryptase was not raised and no specific cause was found by the immunologist at the time other than "allergies to the inhalational anaesthetic" The original immunologist is now retired. In 2007 he again had significant hypotension at the time of surgery without a clear cause being found. He had other anaesthetics since then without problems. Is there any point in further testing? How should he be managed?

Discussion: - After discussion with a local immunologist chlorhexidine IGE was tested (this can be done as a 'simple' blood assay). This was found to be negative, which is thought to exclude chlorhexidine anaphylaxis (i.e. intradermal tests are unnecessary).
Reviewing immunology results, all previous testing had been negative and had not suggested true IgE anaphylaxis. The diagnosis of "allergy" to inhalational agents is unjustified but given the confusing history it seems appropriate to just avoid the issue by using a 'cautious' GA with TIVA. Patient should be considered for signs of dysautonomia.

TOPIC 2: A High Risk Patient – estimating risk.

An 83 year old booked for laparoscopic anterior resection. Two recent admissions for congestive cardiac failure secondary to anaemia (80 g/l) which responded to transfusion. Diastolic heart failure with EF 78%. Patent Foramen Ovale on Echo with significant left to right shunt, large right atria and pulmonary hypertension. Creatine elevated (approx. 200). What is the risk?

The NSQIP risk predictor suggests 27% all cause complications and 1.2% risk of death. Discussed:- This seems to be surprisingly low. It was noted that it can be difficult to find the operation on NSQIP – frustration with this can lead to inappropriate surgical classification and thus (presumably) inaccurate predictions. The life expectancy of an 83 year old is 7 years on the UK survival tables. Australian survival is thought to be slightly better than the UK tables, but that is the population average. Pragmatically, is it possible to optimise the patient? No scope identified (after correcting anaemia) and it was felt appropriate to go ahead as the surgical pathology (ongoing GI bleeding) is defining the need for surgery. Advanced Care Planning should be discussed. A definite booking for post-operative HDU. Intraoperatively, afterload reduction may help her cardiac status but filling and haemoglobin needs to be maintained.

TOPIC 3: Driving (and other decisions) after Sedation

What is appropriate advice for driving after procedural sedation? (or general anaesthetic for procedure). There is no clear 'legal' standard of care on this matter. Most centres require the patient to go home with 'an escort' (although this may become the taxi/uber driver). General advice and expectation is that the patient will stay with someone overnight, however in the 'real world' this is often 'modified' or not fully observed. Some judgement about the patient's cognitive reserve, social status and facilities at home may be appropriate.

A comprehensive review from 2003 suggests that traditional advice to avoid driving for 24 hours is excessively cautious after a simple anaesthetic (see Ref) but pragmatically, insurance companies may not necessarily accept coverage for driving for 24 hours (particularly if there is an accident!). Apart from anaesthesia effects, the use of strong analgesics, and the effects of the procedure/surgery may make driving unsafe. For anaesthetists, choice of anaesthetic agents, and particular caution with drugs that may persist in some patients longer than traditionally considered (e.g. midazolam, droperidol) is appropriate.

The third reference below describes two cases in Canadian law of medical malpractice related to patient driving after ambulatory surgery, with resulting accidents. Frightening reading.

REFERENCES:-

Tucker PF, Chilvers CR. Fitness to drive after intravenous sedation and general anaesthesia: a literature review. Australasian Anaesthesia. 2003(2003):27-40

Chung F, Kayumov L, Sinclair DR, Edward R, Moller HJ, Shapiro CM. What is the driving performance of ambulatory surgical patients after general anesthesia? Anesthesiology: 2005 Nov 1;103(5):951-6.

Chung F, Assmann N. Car accidents after ambulatory surgery in patients without an escort. Anesthesia & Analgesia. 2008 Mar 1;106(3):817-20.

Beyond Driving:-

What advice should be given about other important decisions, legal or financial matters etc? Some would suggest even more caution than advice regarding driving.

But of historical interest:- Under Section 3 the 25th amendment of the US constitution, the President can declare that they are temporarily incapable of carrying out the role of the president. The amendment was ratified in 1967, but section 3 has only been enacted three times:- firstly by Ronald Regan in 1985. After having a colonoscopy at which a villous adenoma was discovered, he decided to have a bowel resection the next day. He was 74years old. Thus at 10:32 a.m. on July 13, Reagan signed a letter 'mindful of Section 3', transferring his powers to Vice President George H. W. Bush, who was Acting President from 11:28 a.m. until 7:22 p.m. that day, when Reagan transmitted a second letter to resume the powers and duties of the office. (Note that this was before laparoscopic surgery.)

On June 29, 2002, President George W. Bush underwent a colonoscopy and chose to invoke Section 3 of the amendment, temporarily transferring his powers to Vice President Dick Cheney. The medical procedure began at 7:09 a.m. and ended at 7:29 a.m. Bush woke up twenty minutes later, but did not resume his presidential powers and duties until 9:24 a.m after the President's physician, Richard Tubb, conducted an overall examination. Tubb said he recommended the additional time to make sure the sedative had no aftereffects. In 2007, President Bush again had a colonoscopy, and temporarily transferred his powers to Vice President Cheney from 7:16 a.m. until he reclaimed his powers at 9:21 a.m.

Presumably the President of the United States is not required to drive a car to get home after a colonoscopy. It would seem, however, that s/he is regarded as capable of making other executive decisions whilst passing the time waiting for transport back to the White House….

"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: **Bilateral Lateral or Orbital decompression under general anaesthesia**

An 80 year old women with a history of Graves' Disease presents with a ophthalmopathy for orbital decompression. Otherwise she also has Sjogren Syndrome and a history of atrial tachycardia treated with beta-blocker (25mg metoprolol/day). She had a recent overnight admission following syncope. There was brief loss of consciousness, with bradycardia (HR 20bpm) recorded briefly in the ambulance. She recovered overnight and has been well since. She had a similar episode 3 years ago without any signs of cardiac injury. At that time the dose of beta blocker was reduced. ECG now shows a normal pattern with a heart rate of 76 at rest. Should we proceed? Any particular preparation?

Discussion: - Given the history of atrial tachycardia, and the low dose of beta blocker, and a heart rate of 76 (i.e. rather than 50-60) it seems appropriate to continue the beta blocker. If the heart rate was low it would be appropriate to stop it or at least reduce the dose further. Surgery could be done with a block, however a peribulbar block can also cause reflex bradycardia, so this may not be of benefit with regard to cardiovascular stability. Given that bilateral surgery is planned, regional anaesthesia is not a good choice anyway. A small dose of atropine was suggested by some but not by others.

TOPIC 2: **Immunomodulators**

The recent explosion of Immunomodulators (including monoclonal antibodies) has caused considerable confusion as to the appropriate perioperative management. Many of the drugs are uncommon and unfamiliar, and the wide variety of brand names without any obvious 'hint' as to the effect or class of the drug may contribute to prescribing errors. There are also differing opinions amongst surgeons, immunologists and rheumatologists as to the appropriate management of these drugs pre and postoperatively.

There have been recent (local) cases of major sepsis associated with them; however the added risk from immune suppression may not justify the exacerbation of disease from stopping the drugs preoperatively. In the context of perioperative decision making, the indication for the immunomodulatory therapy must be considered: - some patients are using these drugs for relatively "minor" problems. The timing of the dose and surgery within the dosing cycle is also important to consider. It must be expected that opinions will continue to differ on this point for some years as experience with these drugs grows.

Reference Recent authoritative guidelines from the US may help in decision making:-

Goodman SM; Springer B; Guyatt G; et al; 2017 American College of Rheumatology/American Association of Hip and Knee Surgeons Guideline for the Perioperative Management of Antirheumatic Medication in Patients With Rheumatic Diseases Undergoing Elective Total Hip or Total Knee Arthroplasty Arthritis & Rheumatology. 2017(Aug):69(8):1538-1551

TOPIC 3: Sigmoid Cancer – Aggressive or conservative management?

A 76 year old Female with severe COPD has been diagnosed with sigmoid cancer. She is thin 155 cm 42 kilos (BMI 17). Spirometry shows FEV1 0.44L FVC 1.22L. Exercise tolerance limited to 1 flight of stairs (just) but no hospital admissions with respiratory problems. Stopped smoking 7 years ago and there are no identifiable reversible conditions now. Echo shows moderate pulmonary hypertension, otherwise OK. CPET shows AT 12.4 (somewhat better than expected). NSQIP predicts death rate of 3.5% and complications 17%. Alternative to a sigmoid resection would be a stent combined with chemo and radiotherapy. But the patient is keen to go ahead with surgery :- in common with many patients she is not comfortable with the idea of "conservative" management of a cancer.

Discussion: - This is a very marginal case. What is the long-term outcome of her respiratory disease regardless of surgery? The BODE Index is currently one of the best-validated predictors of this, although is remarkably 'simple', based on only four factors. It is available on Medical Calculator Apps, including recent modifications. BODE uses Body Mass Index; Obstruction (FEV1/FVC on spirometry); Dyspnoea (MRC dyspnoea scale) and Exercise (six-minute walk distance) to produce a score on a 1-10 scale to predict long-term risk of death (e.g. three or four years). In this patient, four-year survival is predicted at 18%. Apart from BODE factors, other clinical factors that should be considered including cardiac reserve and ability to effectively cough to clear the chest of sputum. Low preoperative oxygen saturation due to chronic stable pulmonary pathology may be less of a perioperative risk factor than we instinctively consider, whereas CO2 retention due to ventilatory impairment imposes very high perioperative risk.

We need to know more about the long term outcome after surgery, including what is the likely type of death with a stent and conservative therapy. We don't know enough about the quality of dying on either path to give clear advice. Given her limited life expectancy due to respiratory disease, the "logical' management may be to avoid surgery, but given the uncertainties it is very much a matter for shared decision making.

TOPIC 4: Paraumbilical hernia

An 82 year old male with a 5cm hernia 5cm paraumbilical hernia has never had a general anaesthetic. Has severe OSA, managed with CPAP since 8 month previously. Exercise tolerance is slow walking on level ground only. FEV1 is 1.17L (42% predicted. Saturation at rest is 92%, deteriorating to 85% with exercise. Echo shows enlarged right ventricle. Oedema to the knees. Sleeps upright. NSQIP predicts mortality of 13%. His daughter is already reluctant. The hernia has never become incarcerated. It was agreed that it was inappropriate to perform elective surgery. If the patient continues to lose weight it may improve his quality of life and reduce the symptoms of the hernia. If he presented with an acute incarceration, it would be appropriate to attempt reduction and repair under local anaesthetic.

"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: **Single or Bilateral Knee replacement?**

82 year old man with bilateral severe osteoarthritis of both knees. Was independent at home until 12 months ago, but is now largely confined to a wheelchair (due to pain), and is dependent on his son for assistance with mobility etc. There are no clear cardiorespiratory symptoms however he has very limited exercise because of arthritis – and so this is difficult to assess. Moderate renal failure (eGFR53). Some non-specific ECG changes with multiple VEBs. Recent proximal tibial venous thrombosis, now on ongoing treatment with apixaban as a result. Recent geriatric assessment shows early cognitive decline but is otherwise ok. In view of the disability due to pain, the surgeons have asked for consideration of bilateral knee replacements.

Discussion: - There appears to be little room for medical improvement generally and surgery has certainly indicated. In view of EGC changes and potential arrhythmias, and echocardiogram may be appropriate although pragmatically it is unlikely to change management, given the lack of evidence of valvular disease. Recent tibial thrombosis suggests a need to scan the deep veins to ensure at least no progression of thrombosis, and may demonstrate the previous 'DVT' has cleared. Clarify with surgeons and haematology an appropriate plan for post-operative management of thromboprophyaxis. Although there is no hard "evidence", it was generally felt inappropriate to perform a bilateral knee replacement despite the pain and disability. Suggest get one knee replaced and then plan a second knee replacement 4 to 6 weeks after the first.

TOPIC 2: **Non-surgical management of the endometrial cancer**

A 58 year old woman is planned for hysterectomy for Grade1 endometrial cancer. BMI is 49 with very centralised obesity and type 2 diabetes. She has a history of asthma but without hospitalisation until very recently. A recent exacerbation required pulse high dose prednisone and this is now being weaned. The patient is still using bronchodilators 4th hourly. It was felt clearly inappropriate to go ahead with surgery at this time. Laparoscopic surgery would require step head down position and this is certainly felt inappropriate at this stage. The patient had a Mirena inserted in July under a spinal anaesthetic, as a temporising manouvre. Question: A Mirena may be used as either an alternative to surgical therapy, or used as a driver to 'strongly encourage' the patient to lose weight to enable surgery to be undertaken safely. Therefore, what is the efficacy of Mirena for Grade 1 endometrial cancer? Is radiotherapy an effective alternative treatment?

Brief Advice from Gynae-Oncology:-

Treatment for these women must be individualised.

Endometrial adenocarcinoma should almost always be treated by hysterectomy and BSO. We await results of the FEMME trial which may support a more conservative approach in some cases. At present, if the pathology confirms a grade 1 adenocarcinoma and MRI suggests there is no or minimal invasion then it is reasonable to consider a non-operative strategy. This will usually be insertion of a Mirena IUS (IntraUterine System) at hysteroscopy followed by further hysteroscopy 6 months later to replace the Mirena and check histology. If adenocarcinoma remains then we should either consider surgery or radiation (intracavity and pelvic). The effectiveness of radiotherapy used as an alternative in this situation is unknown.

Thus a conservative approach is warranted if further childbearing is sought or if either the patient or the surgeon is unlikely to survive the operation! Some of the patients have multiple comorbidities and their life expectancy without cancer is likely less than five years in which case we should have a slightly less aggressive approach in mandating a hysterectomy.

Outcome for this Patient:- Surgery was postponed. Patient was strongly advised to optimise astma management and lose weight, reinforced in the letter to her GP, including considering use of Optifast for rapid preoperative weight loss. After optimising inhalers and weaning of oral steroids, there were no further exacerbations of asthma. She lost 11kgs in four months, and then had laparoscopic surgery in January (TLH/BSO/adhesiolysis). Tumour was superficial and therefore PLND was not undertaken. Tolerated Trendelenburg position. Discharged well on Day 2 post operatively.

TOPIC 3: ***Contact Dermatitis***

A 38 year old pregnant women, approaching term, for planned caesarean section. (Previous Caesar 2 years ago). Obstetric history is complicated by 2 non-obstetric factors: -

1. With the previous Caesar she developed a severe urticaria and itch after spinal anaesthetic. Discussed:- the history was strongly suggestive that this was an exaggerated reaction to morphine given intrathecally. It was felt that it was appropriate to go ahead with a 'normal' spinal on this occasion but avoid intrathecal morphine. There is no value in immunological investigations. It may be worth explaining that she may have somewhat more discomfort as a result of not having intrathecal morphine. Most considered PCA should be held in reserve rather than prescribed 'prophylactically'.
2. The same patient later developed a severe contact rash with blistering and secondary bacterial infection where she had been in contact with the "bluey's" at the time of the previous caesarean. It had not been followed up at the time (at a different hospital near to JHH). On further questioning, she gave a history of previous contact dermatitis with other plastic products such as some band-aids, sanitary pads, and some other plastics. Question: What follow up?

Discussion: - Patient was referred to dermatology outpatients at JHH. There are three dermatology registrars in the hospital. On this occation, the patient was seen on the same day as the initial clinic consultation. This patient's history suggests that contact dermatitis may have been precipitated by contact with the plastic and materials that go with them, or perhaps with other contaminants e.g. formaldehyde, glues, etc. Alternatively, antiseptic wash may have been a precipitating factor. After history taking by the dermatologists, patch testing for contact reaction was performed.

Investigation of Contact Dermatitis. Patch Testing is performed by applying small pieces of the material(s) to which the patient reports her/his contact dermatitis to the skin, and observing for reaction after 48 and 96 hours. The patient must not be using steroids or immunosuppressants. Apart from testing to specified materials, commercially supplied patches with multiple (12) different substances may also be applied as a screening test. In this case, 3 patches, each with 12 substances, were used. This is a 'general' screen. There are also occupation-specific multi-substance patches to investigate contact dermatitis in particular patient groups, such as hairdressers, farmers, or 'surgical' (i.e. nurses, surgeons, anaesthetists etc with exposure related to surgical gloves, skin preparations etc).

The results in this patient showed weak reaction to *Balsam of Peru* (a commonly used fragrance in soaps, hand creams etc), and a strong reaction to *Colophony*. *Colophony* is a pine resin extract commonly used as an adhesive/glue and for a wide variety of other uses e.g. Rosin used by violinists.

Advice (printed advisory material) was given re avoiding these substances in future. The patient was delighted to have the probable cause of the reaction identified.

"From the Trough"

Perioperative Interest Group Notes

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Website: www.perioptalk.org

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TOPIC 1: **An occasional triumph.**

A 61 year old patient was seen in the pre-operative clinic in preparation for a planned procedure. The name was familiar although the appearance had greatly changed: - the patient had been seen as a pre-operative consult 10 years previously, at which time she was grossly obese (290 kilos) incipient respiratory failure. At that time she was knocked back for surgical hyperbaric intervention, and was referred to a dietitian in the vain hope of change. Miraculously, she was a "good" patient with a dietitian, lost approximately 80 kilos by diet alone and was then considered safe for a laparoscopic banding procedure. Following some lose with that she then had a sleeve gastrectomy, and is now 120 kilos. She has recently had a knee replacement and bilateral mastectomy to reduce redundant breast tissue. She was extraordinarily happy and is unrecognisable. An occasional triumph.

TOPIC 2:

A 67 year old gentleman with morbid obesity, obstructive sleep apnoea, and pre-dialysis renal failure and insulin dependent type 2 diabetes was booked for revision of arteriovenous fistula. Supraclavicular block was performed successfully. On moving from the trolley to the operating table he developed respiratory distress which was relieved "imperfectly" by sitting up and using THRIVE. Causes of acute dyspnoea include possible pneumothorax, although phrenic nerve palsy from the block was more likely. There were no clinical signs of pneumothorax. The ultra sound was immediately to hand. And that was used to exclude pneumothorax. A new piece of technology that doesn't necessarily spring to mind in this application.

The patient remained dyspneic but coping (just) with thrive and then Cpap for the duration of surgery and into recovery, and the block wore off after 5 hours without ########.

The patient did not seem to have adequate comprehension that even at this stage of his disease; weight loss may delay progression of his renal failure. He became hypoglycaemic with only half his usual insulin due to fasting, suggesting that his insulin requirement is being maintained by his carbohydrate intake. A letter to a nephrologist to draw this to their attention for consideration of "aggressive" advice about weight loss".

TOPIC 3:

A patient presents for an elective procedure with a history of intermittent atrial figuration. They had been on rivaroxaban, "but had stopped taking it because it made her hair fall out". She had been taking aspirin, but had stopped taking this in preparation for the procedure (despite not being advised to do so) Questions: - What are the risks of thromboembolic complications in this situation? What advice should be given to the patient? What are the true risks of different anti thrombotic therapies?

Discussion: - Explanation to the patient to clarify that the anticoagulant therapy is not "for their irregular heart rate" but is to prevent stroke. It's also appropriate to clarify to patients that even if they are not scared of "dying" stroke prevention is to maintain quality of life without overwhelming disability in a nursing home rather than to prolong life. Anticoagulation is more accepted to the patient in the setting of secondary prevention (after a TIA or a stroke) patients commonly underestimate the value for primary prevention. Decision aids are difficult to find (Ross reminder case with Nick Collins etc.)

TOPIC 4: **Social media profile**

A patient is anaesthetised for a standard anaesthetic and surgical procedure. After the patient is asleep, the nurse indicates a conversation between themselves and the patient in the anaesthetic bay, thus- the patient asked what is the anaesthetist like? I looked them up on google and it was interesting….
Discussion:-It is not clear how often this happens, but clearly even anaesthetist have a profile on social media which patients may be looking at.

TOPIC 5: **Ace Inhibitors again**

Many patients arriving for colonoscopy through the rapid access program without any detailed assessment until the day of procedure. Should patients be advised to withhold ace inhibitors routinely on day of surgery when having a colonoscopy?
Discussion:-If anything, patients having colonoscopies arrive somewhat “washed out” and prone to hypotension due to bowel pre. It would seem reasonable to withhold ace inhibitors routinely, as many of them become modestly hypotensive during the procedure. This will be conveyed to the rapid access colonoscopy co-ordinator.

"From the Trough"

Perioperative Interest Group Notes

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THEME:- Patients with multiple uncertain and intersecting pathologies

CASE 1:

A 75 year old female with a past history of resection of mandibular SCC in 2013 has a recurrence. Surgeons are considering an extended neck resection including sternal flap. The patient has significant comorbidities, although remains independent. Moderate COPD. Exercise tolerance variably reported - 100 metres slowly on the flat or half a flight of stairs. She was diagnosed earlier this year as having severe aortic stenosis:- reported at that time as peak gradient of 55mmHg and valve area of 0.74cm^2. The patient reports that she was being considered for TAVI as treatment for this, and in the course of these investigations she was found to have a lung SCC (i.e. Separate from the mandibular SCC recurrence) which was treated with ablative radiotherapy.

Perioperative management thus far has included a long discussion with the patient, her husband and her daughter aiming to clarify "what matters to you". It transpired that the patient's main concern was to be able to travel to a family reunion in the near future. There was an impression of varying thoughts about the desirability of surgery between the patient and the family.

Discussion:- More information needed about medical options.

(Discussed with the oncologist):- (1) SCC Lung:- They report that having given this dose of radiotherapy to the lung SCC, they would expect a life expectancy of 4 years or more, unless some independent pathology determines patient mortality. Thus although the treatment is not 'curative', many of their patients die from other causes after radiotherapy in this situation.
(2) The SCC of the mouth is growing rapidly and needs treatment, either 'curative' (surgical resection) or from a palliation point of view. Palliative chemotherapy is a reasonable option and will be reasonably tolerable.
(Discussed at cardiology meeting.) The patient needs to be reassessed. A peak gradient of 55mmHg with a valve area of 0.74cm^2 seems discordant. The estimation of area is most likely to be a measurement error. There is some disparity in the reports of severity of the aortic stenosis. This needs to be clarified with at least a repeat echo and formal consultation.
After discussion, and given the patient's focus on the family reunion and the potential that she may not meaningfully survive major 'curative' neck surgery, and the lack of clarity about treatment from the aortic stenosis, treatment should be aimed at palliative chemotherapy for the mandibular SCC and reassess the situation after the family reunion. (F/U:- The patient accepted this plan.)

What is the status of TAVI? TAVI is becoming internationally accepted as a mainstream intervention for aortic stenosis; however the appropriate patient selection criteria are still a matter of debate and evolution. TAVI has limited availability in this region at present. This is unlikely to change in the next 6 to 12 months. At present, in the public sector, there will be strict selection criteria for patients for TAVI. It would anticipated that this patient would not be accepted for TAVI under these criteria.

This case emphasises the importance of knowing what is important to the patient, rather than just medical pathology.

CASE 2:

An 81 year old female with a TCC of the bladder, has been having regular cystoscopies and diathermy as treatment. She has atrial fibrillation and a history of left subclavian stenosis, and is treated with warfarin as a result. She also has a history of pulmonary hypertension that has not been entirely clarified. A recent echo reports a peak pulmonary artery pressure of 81mmHg, but right ventricular function appears to be good. She presented to hospital for her planned (regular) cystoscopy and was noted to appear pale. Was found to have a haemoglobin of 76g/L (no wonder she looked pale!) She felt better after transfusion to 120g/L. Warfarin was ceased at that time. Question:- Should we go ahead at this stage, or investigate the cause of the anaemia and her cardiac status further?

Discussion:- Despite the lack of clarity about exactly what is going on with all her medical problems, she appears now to be "stable" and has survived a haemoglobin of 76 with only mild symptoms of feeling a little "weak". It is unlikely that cardiac investigation will lead to any intervention. The medical uncertainties aren't going to be resolved quickly, nor change management. Therefore proceed. The warfarin should be revisited postoperatively after clarifying all the intersecting pathologies. In the meantime give clexane cover for the atrial fibrillation and vascular stenosis.

CASE 3:

A 74 year female was admitted through emergency with a stroke with significant left hemiplegia. A Doppler scan showed a right internal carotid thrombosis with floating thrombus. She was heparinised and booked for carotid endarterectomy. After 2 days the stroke had virtually resolved. Patient also has a history of ischaemic heart disease with stable but frequent angina. She had a short episode of central chest pain on the day after admission. There was no troponin rise. She has all the usual vascular risk factors. Exercise tolerance 1 flight of stairs.

The initial reviewing anaesthetist asked cardiology for opinion: - They suggested that there was no point in an angiogram as a coronary intervention would lead to dual antiplatelet therapy and thus postpone surgery (although some would suggest that this is not necessarily true - i.e. Surgeons would go ahead anyway). They also pointed out that there is 24-hour back-up cardiology lab capacity in case the patient has a post-operative cardiac event. She was therefore planned to go ahead with surgery.

On the afternoon before planned surgery a CT angiogram was performed which showed that the clot in the right ICA was stable and organised (and therefore had been there for some time). This suggested that the Doppler was misinterpreted. Hence there was no need for carotid endarterectomy (!) and the procedure was cancelled.

"From the Trough"

Perioperative Interest Group Notes

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TOPIC 1: Pulmonary Rehabilitation

A 75 year old gentleman is scheduled for repair of upper abdominal incisional hernia (i.e. entirely 'elective' surgery). Patient has history of CAL and had previously been postponed due to an URTI. Now "better" but has severe CAL on spirometry (FEV1 900mls FVC 2.1 litres). Patient reports that he can walk up two flights of stairs slowly and otherwise has good exercise tolerance. He is on a full conventional therapy for CAL and is compliant with therapy. Should he be considered for pulmonary rehabilitation?

Discussion: - The reported exercise tolerance seems too good for the spirometry readings. The spirometry readings may not be accurate. If his exercise tolerance is as good as reported, pulmonary rehabilitation is probably unnecessary. But this is only the reported exercise tolerance. The reality may become obvious if the patient is actually taken for a walk and directly observed exercising, including walking up the stairs. This can also be useful in some cases to confront the patient with the reality rather than what they imagine their exercise tolerance is.
It is a big upper abdominal incision and therefore high risk. Hence if the patient's spirometry is accurate, and exercise tolerance less than he claims, it seems worth referring to a respiratory physician for an opinion about any options for improvement.
Does it really need surgery anyway? If surgery is to proceed, good analgesia is crucial. Thoracic epidural may well be indicated. Post op HDU mandatory.

TOPIC 2: External Imaging.

A patient for hemithyroidectomy including a mediastinal split. CT Scans have been done privately, and are not available for viewing. Are the "hard films" adequate?

Discussion: - Radiology can source the imaging directly and load them onto the hospital imaging system. It needs to be discussed with radiology as a specific request. It is now 'reasonably' straightforward to shift imaging between radiology providers within business hours.

TOPIC 3: Cataracts and Ischemic Heart Disease

A patient for cataract is awaiting coronary angioplasty and stents in the near future. After PCI the patient will be on NOACs. Should the cataract surgery be brought forward (to avoid surgery on NOACs) or would the risk of cataract surgery (stress etc.) in someone with IHD be unacceptable? How to proceed?

Discussion:- Even if a patient was awaiting a PCI, most thought it would be reasonable to proceed with cataract surgery, given how low risk this is. But doing cataract surgery post-PCI is acceptable as well. Post-PCI, a wait of 6 weeks may be appropriate. A sub-tenons block may be appropriate with NOACs. A useful table comparing the risks of blocks and antiplatelet agents is available.
Reference Kiire CA, Mukherjee R, Ruparelia N, et al. Br J Ophthalmol 2014;98:1320–1324.

TOPIC 4: **Professional Etiquette**

A 60 year old awaiting a removal of inner canthus BCC and lacrimal duct repair has a history of SVT, IHD, COPD, and a pulmonary embolism 3 years ago. Is on rivaroxaban since the PE. The surgeons have requested 3 days off rivaroxaban and bridging with clexane.

Discussion: - Given the distant history of a venous embolism, it is reasonable to merely cease rivaroxaban. Bridging is unnecessary. (This is derived from the results of the BRIDGE trial, which studied warfarin rather than NOACs, but is broadly comparable.) This is a recent change in practice, and some practitioners are not aware of it. These findings are becoming incorporated into authoritative guidelines. A draft is currently being finalised for NSW Health through the CEC, but not released yet.
The appropriate management would be to ring and speak directly with the surgeon 1. As a professional courtesy. 2. To clarify if there is a particular reason for the surgeon's request for bridging 3. To educate the surgeon about recent findings (i.e. the BRIDGE Trial). Practically, it would be reasonable to proceed without bridging, just leave a message with the surgeon's rooms saying what is being organised, rather than spending excessive time trying to directly contact the surgeon.

TOPIC 5: **Tooth Extraction**

A 17 year old female with multiple medical and social issues has a BMI of 67, weight of 190 Kgs and rising, and also has ITP on some unusual medications. Is booked for multiple teeth extractions under General Anaesthetic. How to manage.

Discussion: - After consideration of all the complexities of managing the ITP, and the hazards of a general anaesthetic, the issues were discussed with the surgeons. They were comfortable removing the teeth under local anaesthetic "if it was possible", but had not discussed this with the patient. The issues were discussed with the patient: - she agreed to have the teeth removed under local anaesthetic.

TOPIC 6: **Scratchy Eye Post-Operatively**

A patient reported a "scratchy eye" in the evening after surgery. How should this be evaluated?

Discussion: - It may seem a 'nuisance' issue, and is most likely a small corneal abrasion/ulcer, perhaps from minor trauma or from desiccation. But the patient has identified it (without prompting) and it needs to be taken seriously and needs careful evaluation. In a large hospital this is most conveniently in the emergency department where there will be a slit lamp and fluorescin drops. (ED specialists may be reasonably trained for these purposes) Examination with fluorescein can also be done at the bedside. If a simple abrasion, it should resolve overnight. Needs to be followed up the next day. Antibiotic ointment may be given, although opinions differ. Anecdote:- a patient presented with a similar story on the day following surgery. Examination was performed with flourescin and opthalmoscope, then using slitlamp in ED and found that it was not a corneal abrasion as expected but an early herpetic ulcer. Early intervention with anti-virals prevented what could have been a catastrophic complication.