"From the Trough"

Perioperative Interest Group Notes

Based on Cases discussed at the Weekly PIG Clinical Meeting on 11th February 2016. Publication date 18th February 2016.

Attendance:- Paul Healey, Ross Kerridge, Julie-Anne Avard, Deanne Shultz, Elyse Farrow, Sandra Derry, Neelam Bhala, Jo Walsh, Peter Harrigan, Fiona Merritt, Guest:- Jenny MacDonald (Director Of Pharmacy)

This was the first meeting for 2016. During 2015, the meetings were rotated through the week, but organization and attendance became difficult. It has been decided to revert to the previous practice of regular Thursday lunchtime meetings in the main theatres meeting room. Meetings are informal, and cases can be presented for discussion by anyone attending. Interesting papers , or other material not based on individual case, is also welcome.

TOPIC 1: *Perioperative Medication Notes*

The system for noting the patients regular medication changed to a specific form early last year, partly in preparation for hospital accreditation. Late last year there were concerns raised by pharmacy that the form was being used by ward JMOs to guide prescribing, and was being regarded as having the same 'reliability' as a record completed by pharmacists. The form was subsequently changed to one specifically for Perioperative Clinics. The draft form designed at that time was reviewed by the group, and discussed with Jenny MacDonald. Some changes were agreed to make the form somewhat more functional, but also to include disclaimers to ward staff indicating the form was not to be regarded as sufficiently accurate to guide prescribing without checking at the time of admission. A modified form will be introduced shortly.

TOPIC 2: *Surgery during alcohol detoxification*

51 year old male presented to clinic for L4/5 microdiscectomy on the following day for management of sciatica pain. This had been booked in October 2015. He had a steroid injection in December and his pain was reasonably controlled without opiates.

Background:- Alcohol abuse – drinks 2L of wine daily. Has had one inpatient detox at Lakeview in August 2015. Recommenced drinking after 2 months. Smoker – 30 pack years. No diagnosis of COPD.

Pt presented to the clinic reporting having ceased drinking and smoking 8 days ago. He had an admission to JHH MACU for management of symptoms of withdrawal 3 days ago. This was treated with benzodiazepines. He was discharged home the following day on Naltrexone, thiamine and PRN benzodiazepines. Pathology investigations at this time demonstrated mild derangements in liver function tests only.

He had taken one dose of naltrexone 2 days ago before being advised by JHH admissions that his operation was to be in 3 days time.

DISCUSSION: Given his acute physiological, pharmacological and psychological issues his surgery was deferred for one month. This would allow time for stabilization of his status. He was advised that he must not drink for one month prior to surgery.

Naltrexone is an opioid antagonist. Alcohol causes the release of endogenous opioids and this is one of the mechanisms by which alcohol causes euphoria and elevated mood (for some!) Naltrexone is used to stop this effect and assist in alcohol abstinence treatment. The D&A team at JHH suggest that it should be ceased 5 days preoperatively if possible.

TOPIC 3: ***Surgery in poorly controlled, now complaint Diabetic.***

66 year old female for review in preparation for laparoscopic ventral hernia repair

Background:- Morbid obesity – weight 122 kg, BMI 48; Type II Diabetes Mellitus; Previous PE (2012) – spontaneous, no ongoing warfarin treatment; COPD – FEV1 1.7L (77% predicted); GORD; Normal sestamibi 09/2015

She was initially seen in November 2015. At that time her BSL was 20mmol/L in the clinic and her HbA1c was 10%. She was referred to the Endocrinology team who undertook medication changes and a very low calorie diet of Optifast (800 calories per day). Despite intensive dietician follow-up and apparent adherence to the diet for over one month she has not lost any weight and her BSL was again high in the clinic (25 mmol/L). Her repeat HbA1c was 12.2%!! Her case was discussed with her endocrinologist and surgeon after clinic consult.

The endocrinologist did not believe the patient was following the Optifast induction, given no weight loss and poor post-prandial glucose. Given her intensive supervised treatment to date, he felt the only option to improve her glycaemic control and weight would be supervised weight loss. This would involve a 3 week admission to hospital for supervised meals with Optifast to gain glycaemic control and weight loss. Surgery would be performed at the end of this time.

The surgeon felt the patient was a "pretty poor candidate" and did not feel the symptoms warranted the increased risk of infection and cardiorespiratory complications with her poor diabetic control and obesity. He also felt that a hospital admission for weight loss and glycaemic control was a poor use of health resources.

DISCUSSION: Is it appropriate to go ahead with surgery requiring this use of health resources??

She has been referred back to her surgeon next week to re-visit all these issues and consider appropriateness of surgery.

TOPIC 4: ***Super Morbid Obesity***

23 year old female seen in clinic for laparoscopic cholecystectomy in 5 days time.

Background:- Morbid obesity – weight 139kg, BMI 59; Smoker 20 per day; Strong family history of DVT/PE, no personal history; Mother of 2 young children. Patient has had 3 admissions to hospital in the past 3 months with pain due to biliary colic. She reported daily pain, especially aggravated by eating, particularly steak. The patient was given advice on dietary avoidance of fats and had been commenced on Optifast by the surgical team one week prior.

In the clinic the patient reported orthopnoea, requiring 3 pillows to sleep on. Her cardiorespiratory examination and spirometry were normal. She had her exercise oximetry checked with a climb up the stairs. Her SaO2 remained 99% on room air at the beginning and end. Her HR increased from 110 to 150bpm with the activity. She had an echo that was normal. She has super morbid obesity with cardio-respiratory compromise.

Her case was discussed with her surgeon after clinic conult. The surgeon was guided by the severity of the patient's pain and the reality that most patients do not lose weight despite all our attempts otherwise. She preferred to operate when the patient was stable with a gall bladder that was not inflamed.

DISCUSSION: Should we delay her surgery to allow one month of calorie restriction to reduce some weight ?

The patient was having significant difficulty with managing her pain. She was unable to tolerate the taste of the Optifast and could not eat. This was affecting her ability to look after her children. It was decided that surgery should proceed as planned.

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Based on Cases discussed at the Weekly PIG Clinical Meeting on 18th February 2016. Publication date 24th February 2016.

Attendance: Ross Kerridge, Gabrielle Papiex; Rheily Wood, Jo Walsh, Julie-Anne Avard, Alison Clark.

TOPIC 1: *Acceptable for Surgery or only some?*

A late 70's patient had recently been evaluated for a wide local excision of a BCC below the knee with partial thickness skin graft closure. PMH included a mitral valve replacement (ST Jude) in the 1980s, from which she recovered remarkably well. Now has severe lung disease, cor pulmonale, TLCO 32%, atrial fibrillation, warfarin, renal impairment. Her legs were 'bluish' and venocongested – suggesting healing would be difficult. After discussion with surgeons, it was decided radiotherapy to the BCC was a preferred management.

She was now booked by a different surgeon for microlaryngoscopy and biopsy of a vocal cord lesion noted after assessment of hoarseness and dysphonia.
DISCUSSION:- The ENT surgeon was unaware of the previous episode, as it happened simultaneously. Despite the apparently negative factors, the patient was still functioning etc:- the value of a diagnostic procedure needed to be clarified. The first step is to clarify with the surgeon exactly what their expectations are, what the value of the procedure itself is (given that the patient is not fit for major surgery), to ensure the surgeon understands the anaeasthetic/perioperative concerns, and to consider alternatives.

TOPIC 2: . *High-risk Hip Replacement*

Patient has severe OA pain in R hip, Pain and SOB restricts activity and QoL. Difficulty walking but can 'swim'. Independent for ADL. Patient in Mid 70s; Cerebal Palsy but mobilises, self-caring & independent. PMH Restrictive lung disease due to scoliosis and R diaphragmatic palsy; FEV1 0.81/FVC1.47 OSA, uses CPAP nightly. Traumatic neck injury when 18yo. C4/5/6 fusion 2005 with limited rotation & extension. Opiod tolerant (Chronic Norspan). Had surgery in 2014 AFOI nasal 7.0 ETT:- and the surgery was an L4 laminectomy& undercutting of L#, resection of l4/5 synovial cysts. BMI 25. No scope for medical optimisation.
DISCUSSION: The operation has good potential to improve QoL quickly. There is high irreducible risk. The patient is aware and accepts risks. Reasonable to proceed. It was felt that it was worth 'having a go' at a combined spinal/epidural despite the previous surgery – if possible, clarify with spinal surgeon re this, but in general it was reasonable to attempt. If this was successful, use it as the primary anaesthetic –hence patient must understand this in advance. GA is acceptable if spinal unsuccessful. Relatively recent successful GA is encouraging. Needs HDU post op. Bring CPAP to theatre and clarify settings etc before inducing anaesthesia.

TOPIC 3: *– The 'healthy' patient….*

70ish patient booked for a bilateral knee replacements. Self-described as 'pretty healthy'. Noted incidentally to be on oral hypoglycaemics (HbA1C was excellent). Mentioned nephrectomy in 2015 – which started as laparoscopic but became open (with multi-transfusion) after vascular 'tear'. (Creatinine now normal). During examination was noted to have a sternal scar ("Oh that's from my heart surgery in 1994") This was a cardiovascular injury ('torn blood vessel') during an intervention for atrial tachycardia). Then… Oh…my daughter has Ehlers-Danlos syndrome….
DISCUSSION:- Ehlers Danlos is associated with hypermobility but also vascular fragility and some reports of platelet aggregation disorders of uncertain clinical signifigance. This patient has no clinical signs of it. Suggested a preoperative echo to evaluate her valves and aorta, but otherwise there is no clear reason not to go ahead with bilateral procedure. (The patient is confident surgery will be routine).

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Perioperative Interest Group Notes

Based on Cases discussed at the Weekly PIG Clinical Meeting on 25th February 2016. Publication date 3rd March 2016.

Attendance: Peter Harrigan, Paul Healey, Lisa Doyle, Julie Anne Avard, Elizabeth Friehaut

TOPIC 1 ***Consultation to assess risk of Malignant Hyperthermia***

Mr AH - a 67 year old male referred to clinic for consultation to assess risk of Malignant Hyperthermia. He had recently had a colonoscopy under sedation in the private sector and reported a fever in the recovery room with a GA in the 1980s. He was referred by the anaesthetist for further consultation.

Background

- Hypertension
- Type II Diabetes – On OHG medications. Last HbA1c 5.2 mmol/mol this month
- Possible Sjogren's syndrome. No active management. Positive ANA and Rheumatoid factor in the past.
- Polycythemia rubra vera
- Gout

He takes medications for hypertension, diabetes, gout, GORD and depression. He has minor allergies to multiple antihypertensive agents. He reports that his mother had dermatomyositis, however there were no known neurological diseases in his family. Interestingly his wife is being investigated for possible muscular dystrophy, however she has normal strength and fully functional at this time.

The patient reported no family history in his parents, siblings or two children of any problems with general anaesthetics. He had 3 general anaesthetics in the 1980s. A knee and ankle procedure, a nasal procedure and haemorrhoid surgery. He reports being well prior to all procedures.

After his first procedure (knee and ankle surgery) the nurse in recovery reported a fever. He remained in hospital overnight. There was no further specific management, no evidence of rhabdomyolysis or specific anaesthetic instructions. He reported no fevers after the subsequent 2 anaesthetics, and he did not have any particular precautions taken.

DISCUSSION:-

There was discussion in the group about the risk of MH in this patient. It was agreed that this patient had no evidence of being at any increased risk for MH than the normal population. No further investigations are required. A letter will be forwarded to the anaesthetist, patient and GP.

TOPIC 2 ***68 year old male for cystectomy and ileal conduit***

Mr CS -68 year old male for cystectomy and ileal conduit.

Background

- Prostate Cancer – radical prostatectomy 2013. Complicated by chronic recto-vesical fistula and colostomy formation. Failed repair in 2014.
- HOCM – with dynamic LVOT (Peak gradient 36mmHg, mean 14 mmHg)
- Severe mitral regurgitation, highly likely due to MV endocarditis and perforated anterior mitral valve leaflet.
- Mild to moderate pulmonary hypertension
- Entercoccus gallinarium endocarditis – on Benzylpenicillin and gentamycin via PICC line.
- Smoker 40 pk years
- Asthma/COPD – on puffers

There was a discussion about how to manage this patient:

- Competing haemodynamic goals of HOCM and severe MR
- Monitoring devices for assessment of cardiac output – his cardiologist had suggested a pulmonary artery catheter!
- Use of neuroaxial analgesia in this patient

His case proceeded earlier in the week.

A standard GA was use with an induction of midazolam, fentanyl and ketamine. He had a standard central line inserted with CVP monitoring. Haemodynamic goals included maintaining baseline HR, BP and CVP. His procedure lasted 8 hours and he was extubated with a fentanyl PCA and TAP catheters. He was admitted to the ward post-operatively with strict fluid instructions documented in the notes for junior doctors to review.

TOPIC 3: ***Total abdominal hysterectomy***

Miss ST - a 40 year old female for total abdominal hysterectomy.
Background – Smoker / Hearing impairment
This patient presented to hospital in October 2015 with dyspnea and dizziness. This was on the background of mennorhagia over the past 4 weeks, with significant blood loss. On arrival in emergency her full blood count showed the following:

- Hb 17 g/L, haematocrit of 0.063 – microcytic and hypochromic
- WCC 7.7
- Platelets 609

She had 5 units of blood transfused and a single iron infusion as an inpatient. Not surprisingly her symptoms resolved!! She was discharged home with a haemoglobin of 84 g/L on oral hormone treatment. One month later her haemoglobin had increased to 129 g/L. She underwent a hysteroscopy and D +C in November 2015. Her bleeding was felt to be due to a massive fibroid, and hence the plan for a total abdominal hysterectomy. She was seen in the perioperative clinic in February 2016, one week prior to surgery, and her haemoglobin was 80 g/L. This was repeated on the day of surgery and her haemoglobin was 70g/L. The surgeon opted to postpone the procedure to optimise the patient's haemoglobin and iron stores. The plan was to give two iron infusions over the next two weeks and review her haemoglobin in 3 weeks, with an aim for surgery in four weeks.

DISCUSSION:
There was discussion at the meeting about the risks vs benefits of delaying surgery in this situation. The aim was to avoid further blood transfusion perioperatively by utilising the patient's own haematopoetic system, and also to replenish iron stores for the other perioperative benefits of iron. This could be feasible providing no further significant blood loss occurs.

TOPIC 4: ***Left L5/S1 disc re-excision and instrumental fusion***

Mr RB – a 53 year old male for left L5/S1 disc re-excision and instrumental fusion.
Background

- Obesity – BMI 44
- Smoker – 25 per day for 35 years
- Chronic low back pain – previous spinal surgery in 2008. Currently under the care of a pain physician on the north coast.
- Opioid tolerance – taking 10mg Methadone BD

He does not drink alcohol. His partner reports episodes of self resolving apnoea occurring infrequently at night. His STOP BANG score is 5 placing him at high risk for OSA.

DISCUSSION:
The meeting discussed the risks vs benefits of delaying surgery for investigation and possible management of OSA. This man is on high dose opioids, with a plan for weaning post surgery. He agreed to give up smoking pre-operatively (he had given up smoking and drinking before his last operation – however he only succeeded to continue alcohol abstinence!)
It was agreed that this gentleman is at a higher risk for OSA, however on the balance of risk benefits, surgery should proceed. It was noted that his pain management will be a challenge with his opioid tolerance.