"From the Trough"

Perioperative Interest Group Notes

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.

Date 15/07/21

Topic 1 Bronchial Thermoplasty

69-year-old lady, consult request for consideration of bronchial thermoplasty

Background

- Severe refractory asthma
- Intermittent vocal cord dysfunction
- IHD – cardiac arrest in 2010, emergency PCI to RCA. Well since. Recent normal stress and resting echocardiogram.
- NIDDM – reasonable control
- Good exercise tolerance. 5.6 METS

Issues

- Severe refractory asthma – frequent exacerbations despite optimal therapy. Wakes at night to use salbutamol
- Postoperative bronchospasm – after recent shoulder surgery. Required reintubation in PARU and had a 3-day ICU admission on BiPAP and steroids
- Patient apprehensive given recent experience but understands risks and is keen to proceed given current QoL.

Discussion

Bronchial Thermoplasty

- Targeted application of radiofrequency to the airways. No current RCT evidence but is approved for use in severe refractory asthma. Case study evidence supports post-procedure reduction in asthma severity and frequency of exacerbations
- Ablation is carried out in 10-second bursts
- **Cough suppression is imperative during radiofrequency ablation and patient is required to remain still**
- Frequently performed in 2-3 staged procedures

Conduct of anaesthesia

- Little collective experience at JHH but one anaesthetist has significant experience from overseas hospitals

- Anaesthetic options:
    1. GA – ETT and muscle relaxant provide perfect conditions for procedure but will increase risk of perioperative bronchospasm and asthma exacerbation
    2. Sedation – with minimal airway instrumentation. Previous experienced anaesthetist suggests use of dexmedetomidine and/or remifentanil with propofol.
- Airway topicalisation – necessary to topicalise airway effectively, increased risk of laryngo- and bronchospasm. Recommendations are as for AFOI. Consider nebulised local anaesthetic and proceduralist will employ "spray as you go technique."
- Minimise secretions – consider use of glycopyrrolate
- Postoperative disposition – critical care monitoring required due to risk of postoperative bronchospasm.
- See article for further discussion of anaesthetic considerations (Anesth Analg 2018;126:1575–9)

Optimisation

- Regular respiratory physician review but consider perioperative course of steroids in consultation with team.

Plan

- Proceed as planned
- ICU 2 bed postoperatively
- Liaise with proceduralist regarding anaesthetic requirements, management of medications perioperatively, consideration of steroid therapy, and appropriateness of planned disposition

TOPIC 2: Consult for Carotid Endarterectomy

62-year-old man for consideration of Right carotid Endarterectomy vs Stent

Background

- Left CEA 2001
- Adult polycystic kidney disease – Haemodialysis dependent
- Hypertension
- NIDDM - Diet only
- Recent normal sestamibi

Issues

- Asymptomatic high-grade right internal carotid artery stenosis – 80%
- Previous TIA and left CEA
- On clopidogrel

Discussion

CEA vs Stent

- Patient suitable for either procedure as per surgical decision

- Minimal anaesthetic required for carotid stent
- Stent often performed by interventional neuroradiologist

Plan

- Inform surgical team of meeting outcome
- Proceed with either procedure

TOPIC 3: Bilateral Total knee replacements

73-year-old man with bilateral knee OA for consideration of single/bilateral knee replacements

Background

- OSA – home CPAP. Compliant
- BMI 37
- IDDM – Hba1c = 7.5%
- Asthma – not known to respiratory physician. Uses salbutamol 5-6 times per day, including overnight.
- Ex-smoker – 10 pack years

Issues

- Noted to have NYHA class-4 dyspnoea at periop clinic
- Spirometry performed which showed: FEV 1 = 1.1 (46%) FVC = 1.9 (56%)
- Confirmed with formal spirometry – moderate restrictive defect with no significant BD response
- Seen at Rapid-access respiratory clinic – advised a short course of steroids and triple inhaler therapy

Discussion

Bilateral joint replacements

- Patients often referred for consideration of bilateral joints
- Surgical team usually requesting procedure to be guided by anaesthetic assessment
- No formal guideline for patient selection but consensus would be an ASA 1/2 patient who is normally fit and active
- This patient would not be suitable for bilateral joint replacements. Increased risk of postoperative pulmonary complications, infection, and MACE.

Optimisation

- Suitable to proceed with single joint replacement
- Optimised from respiratory perspective.

Plan

- Proceed with single joint replacement

TOPIC 4: SCC excision

85-year-old lady for extensive excision of SCC from scalp, transposition flap grafting and craniectomy

Background:

- Severe COPD documented in notes
- Stable disease for past 2 years
- Normal spirometry in clinic
- Walks 1km on flat

Issues

- T4N0MO SCC scalp
- 45kg, concern regarding frailty and extensive surgical procedure
- Albumin 42, 4 on Clinical Frailty Scale

Discussion

- Patient very keen to proceed with surgery, fully informed of risks
- Alternative treatment option - radiotherapy, patient feels this would significantly impact on her QoL
- Surgery is likely to be long and involves craniectomy
- Increased risk of postoperative pulmonary complications and delirium
- Consensus is that it is suitable to proceed with planned surgery
- Disposition – transpositional flap, will have special nurse on ward for observations

Plan:

- Proceed with planned surgery
- ICU 3

TOPIC 5: Abnormal ECG in clinic

56-year-old man for a Radical prostatectomy for prostate cancer

Background:

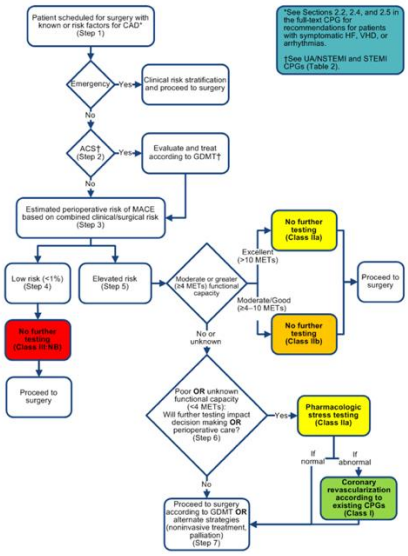
- Asthma – well-controlled
- Lifelong smoker – 30 pack years
- Active, goes to the gym daily >4METS

Issues:

- Inferior TWI noted on perioperative ECG
- No history of symptoms
- Echocardiogram showed 'moderately hypertrophic LV with marginally reduced systolic function, Grade 1 diastolic dysfunction, infiltrative process cannot be excluded, and ASD with small left>right shunt.'

Discussion:

- Discussed at cardiology meeting regarding need for further investigations preoperatively. Cardiologist recommended that surgery proceeds, cancer surgery.
- Differential diagnosis:
    1. Ischaemic Heart disease - relatively normal LV systolic function is reassuring.
    2. Infiltrative process – E.G. Amyloidosis, unlikely but at present it is not significant. Not obvious on echo and voltages preserved on ECG. Recommends post-op outpatient cardiology review and cardiac MRI
- AHA guidelines would support proceeding without further cardiac investigations



- Normal sestamibi would be reassuring but abnormal result would likely cause delay and not change intraoperative management

Plan:

- Proceed with planned procedure
- Refer to GP for postoperative cardiology referral and consideration of cardiac MRI and stress test.

TOPIC 6: HOCM and PAF

66-year-old man for open left inguinal hernia repair

Background:

- Reducible inguinoscrotal hernia. Causing intermittent pain but no hospital admissions.
- Hyperthyroidism
- Epilepsy
- Anxiety/depression

Issues:

- HOCM – stable disease on medical therapy
- AICD in situ
- PAF - Associated increased dyspnoea, haemodynamically stable, severely dilated LA on echo, booked for AF ablation in coming months
- Commenced on amiodarone but recent device check showed an AF burden of 100%
- DC Cardioversion recently

Discussion:

Timing of surgery

- High risk of AF intraoperatively
- Recent cardioversion and need to cease DOAC perioperatively
- Should we wait until ablation is performed?
- Discussed at cardiology meeting and cardiologist feels it would be suitable to proceed but there is a risk of perioperative AF. Ablation success is uncertain in the settling of HOCM, and patient will be more likely to redevelop AF in the 3 months post-ablation
- On optimal medical therapy
- Elective surgery – consensus that it would be better to have ablative therapy preoperatively

Plan:

- Expedite ablation if possible
- Postpone hernia surgery until 3 months post-ablation

Topic 7 Trifasicular block

85-year-old man for cystoscopy and stent change

Background

- Metastatic prostate cancer
- IDDM – HbA1c = 11.7%
- Increased BMI
- OSA
- Asthma

Issues

- Recent admission with AKI and obstructive uropathy, thought to be caused by pelvic metastatic disease
- AKI ongoing despite stent
- Trifasicular block on ECG – 46bpm
- Asymptomatic, present on ECGs from admission last year
- History of unexplained falls attributed to postural hypotension and resolved with cessation of antihypertensives

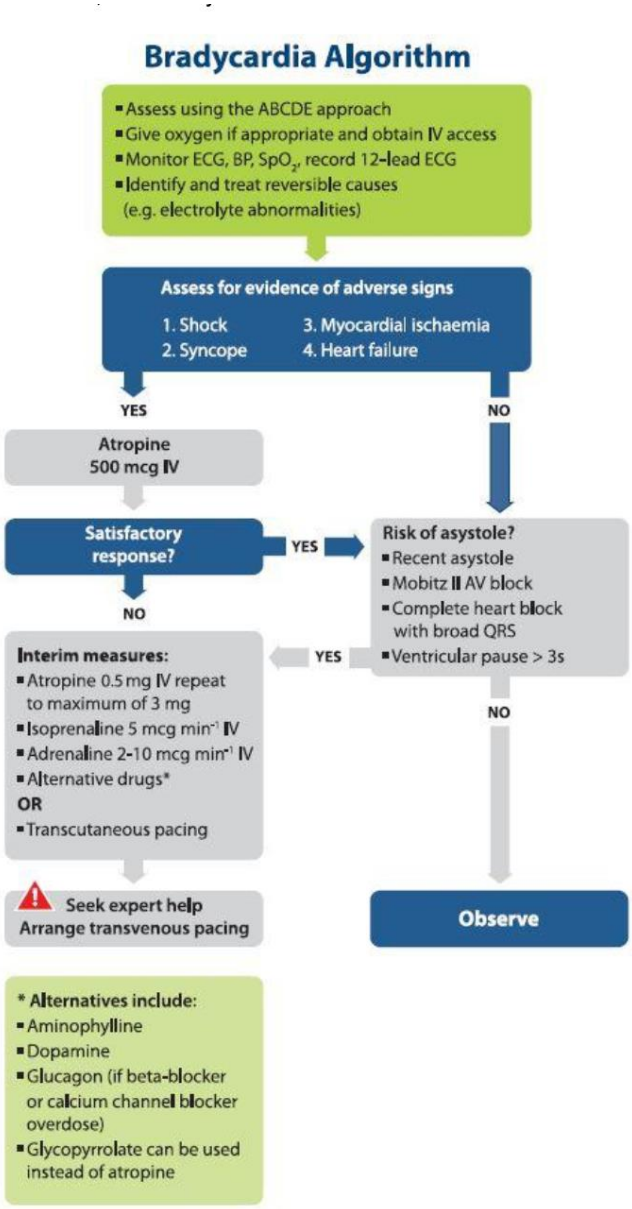
Discussion

Management of trifasicular block perioperatively

- Discussed at cardiology meeting – Not for pacemaker therapy at present; asymptomatic, multiple co-morbidities, increased risk of infection, but does present uncertain risk of developing complete heart block intraoperatively
- Consensus that there should be a clear management pathway for patients at risk of perioperative bradyarrhythmia that are unsuitable for PPM therapy
- Increasing numbers of similar presentations

Risk of perioperative complete heart block

- Difficult to define
- Literature is contradictory at best
- Recent case of perioperative bradycardia with difficulty in obtaining temporary pacing. Not first line therapy but some concern that this issue be resolved before we decide to proceed with cases at known risk of perioperative CHB?



Plan

- Proceed with surgery in conjunction with procedural anaesthetist
- Optimise glycaemic control without postponing procedure
- Discuss at departmental M&M with reference to recent case