



“From the Trough”

Perioperative Interest Group Notes

Based on Cases discussed at the Weekly PIG Clinical Meeting on 5th December 2019. Publication date 10th December 2019.

Website: www.perioptalk.org

The imperfect opinions in these reports are only meant to stimulate discussion: - they should not be considered a definitive statement of appropriate standards of care.

Attendance: Garry Leung, Michael Taylor, Lachlan Frawley, Tim Webb, Victoria Fraser, Joel Parrey, David Cottee, Ross Kerridge, Blair Mumford, Neha Gosavi and others

TOPIC 1: Asymptomatic bradycardia – differing cardiology opinions

An 85 year old male presents in clinic prior to check cystoscopy. (3rd time this year). Had not been seen as a formal preop assessment for more than 12 months.

- History of ischemic heart disease; Last evaluated by cardiologist over 12 months ago – stable at that time. ECG at that time showed RBBB and LAHB (as before), and somewhat prolonged PR interval (0.18sec). Treated with Nicorandil, Aspirin, Statin and Atenolol 25mg/day
- Now feels ‘perfectly well’ and has been stable for last 12 months; independent, active:- But on examination was found to have a heart rate (radial pulse) of 32.
- ECG shows sinus rhythm with VEB after each sinus beat (so electrical rate of 64). Possible p-wave ‘buried’ at end of VEB. RBBB and LAHB as previously, but PR interval is now more prolonged (>0.21sec).

What to do?

Discussion:-

Cardiology consult by phone from clinic – suggested that the ventricular ectopy was appropriately treated with beta-blockade, and if the patient felt well no further treatment was appropriate.

“Should be OK for a cystoscopy” (*and why are you bothering me?*)

Second (older) cardiologist said to stop beta blocker; refer back to GP to get a Holter recording to identify if HR increases with exercise, and to assess native ectopy. Should then have a cardiology review. In view of increasing severity of heart block, will probably need a pacemaker. Postpone the cystoscopy pending PPM assessment/insertion.

Three days later the patient advised that he had ceased beta-blockers and his GP had organised a Holter recording. He had travelled to Sydney on the train with the Holter on and had spent the day walking around the city without any chest pain or dyspnoea and feels fine.

TOPIC 2: Apixaban prior to L5/S1 Foraminotomy

A 72 year old male for a Right L5 Foraminotomy. Currently treated with Apixaban for Atrial Fibrillation. Background history of Aortic Valve Repair (i.e. not mechanical); Pacemaker; echo shows atrial dilatation and moderate LV dysfunction. Unclear history of Connective tissue disorder; Peripheral neuropathy. No kidney issues.

Surgeons have said to stop Apixaban for 72 hours prior. Is this ‘too conservative?’

Discussion: -

How long do we think Apixaban should be ceased for?

- Multiple guidelines exist for duration of cessation prior to surgery, often 24-48hours.

- Most guideline recommendations include consideration of risk of bleeding w.r.t. surgery, and assessment of patient's renal function. (At present, patients at high thrombotic risk are not recommended to be treated with apixaban.)
- ASRA guidelines recommend 72 hours for apixaban prior to neuraxial anaesthesia.

Discussion that NOAC recommendations being a little conservative is not a bad thing. Agreed should stop 72 hours.

TOPIC 3: ERAS, bowel prep, or both?

71 -year-old male from rural location for right hemicolectomy on the following day.

- Scheduled for ERAS protocol (Oral IMPACT for five days) but also for bowel prep.
- Identified problem being conflict of these two regimes:- The bowel prep would flush through & negate the effect of high calorie preop supplements.
- Contacted registrar for surgical team who requested bowel prep should be given. Custom regime of abbreviated bowel prep worked out ad hoc to be combined with ERAS protocol. (Patient had previously had bowel prep for colonoscopy & had extreme response with dehydration, so modified Rx probably better anyway)
- Should we have clarification & guidelines for this?

Discussion:-

- Our surgeons rarely use bowel prep, so presumably in this case there was a particular indication.
- Although use has become less (and is not considered part of ERAS regimes), 'routine' use of bowel prep before colorectal surgery is more common in other parts of Australia. It is probably the practise of the majority of colorectal surgeons in the US, where the use of bowel prep preoperatively is a very active debate.

Topic 4:- When is it OK to fly after surgery?

A patient enquires about flying after surgery. What advice should be given?

Discussion

Some medical considerations regarding flying after surgery include:-

- The effect of cabin pressure ("cabin altitude"). (Commercial aircraft normally decompress to approx. 75kPa or equivalent of 8000feet (2400m). (Some newer planes such as Dreamliners are designed to have a lower 'cabin altitude'.)
- The likelihood of postoperative (or other) in-flight complications or emergencies in an austere environment with limited medical facilities.
- Patient comfort
- Thromboembolic risk, particularly after surgery.
- The duration and destination of the flight. Duration includes airport time.

Implications of the above include:-

- Inspired oxygen will be lower, and this may be a consideration in patients with respiratory compromise (e.g. postoperative atelectasis).
- Gas-filled spaces will expand by approx. 33%. This may be critical after intraocular, intracranial, middle ear or sinus surgery. Pneumothoraces may expand (although hopefully these will have been identified). Expansion of bowel gas or pneumoperitoneum may be an issue to consider.
- Patient should be comfortable with oral analgesics.
- Motion-sickness may need prophylaxis

Pragmatically, the airline's regulations (and interpretation of these by the staff) may be the major issue to deal with.

- Qantas have a very detailed medical/travel guide (6 page document), including after surgery. It separates patients into those allowed to fly, and those requiring a medical clearance.
- In the Qantas guide, otherwise healthy patients can fly 24 hours after anaesthesia.
- The NHS NICE guideline is more succinct. Comments on nature of the surgery/ types of surgery.
- Overall, the airline regulations about flying postoperatively do not appear to be unreasonably risk-averse.

DVT risk

- It is surprising how little detailed advice is given with regard to DVT prophylaxis.
- It is even more surprising how little really clear data there is about the risk:- it remains an area of controversy. (There is a geographical bias in this: - Most of the world regards four hours as a long flight...)
- The incidence of DVT in long-haul passengers has been variously estimated at '10% in very long flights'; 'up to 2%' or symptomatic DVT in 1/4500 flights. (Which still seems extraordinarily high!) Guidelines and recommendations vary in evidence and veracity.
- Airlines advise plenty of fluids, exercise and walking around etc. but not TED stockings or even aspirin.
- Self-administered Clexane (or any other hypodermic medication) may be problematic with security regulations. (Diabetics are advised to have clear documentation of their status.)

Other fun facts

- The medical kit carried on planes is not standardised and even on long-haul flights varies between airlines.
- Airlines have a limited supply of oxygen with very limited flow rates (2 or 4L/min) they are green cylinders as the colour for oxygen in America is green.
- *Local story*: - Responded to patient collapsed on a 2018 flight ex-Dallas one hour out from Sydney. Massive pulmonary embolism: - The Qantas kit was very well organised, easy to follow etc. A defibrillator was available but not a 12-lead ECG, and no pulse oximeter!!!
- Flying after Scuba-diving: - PADDI has detailed decompression tables, and the general rule is that flying is acceptable on 'the day after a dive' (but not in the case of decompression sickness). Note that PADDI tables are designed for decompression to sea-level. If diving at altitude, the decompression schedule needs to be adjusted to compensate for the lower pressure at the lake surface. Fresh water allows faster decompression. Modern dive computers detect changes in altitude and automatically adjust calculations for safe decompression. But even with the help of a computer, it may be worth bearing this in mind next time you are planning a scuba-dive at Lake Titicaca in Peru and Bolivia, at an altitude of 3,812m, with a mean depth of 135m. The atmospheric pressure at the surface is approx. 0.636Atm. (You will presumably be visiting the drowned pre-Incan temple discovered in 1999 at a depth of 30m.)

References

- UK NHS/NICE Guidance to Public (from their website)
- Qantas Medical advisory information
- Firkin F, Nandurkar H, Flying and thromboembolism (Aust Prescr 2009;32:148–50)

- Bartholomew J, Evans N; Travel-related venous thromboembolism *Vascular Medicine*. 2019(Feb);24(1):93–95 DOI: 10.1177/1358863X18818323
- Daniels N; Severe deep venous thromboembolism presenting with syncope associated with airplane travel: A public health quandary *American Journal of Emergency Medicine*. 2018(Sept);36(9):1701–1702, DOI: 10.1016/j.ajem.2018.01.061
- Nable JV, Tupe CL, Gehle BD, Brady WJ. In-Flight Medical Emergencies during Commercial Travel *N Engl J Med* 2015;373:939-45. DOI: 10.1056/NEJMra1409213
- Martin-Gill C, Doyle TJ, Yealy DM In-Flight Medical Emergencies. A Review *JAMA*. 2018;320(24):2580-2590. doi:10.1001/jama.2018.19842