"From the Trough"

Perioperative Interest Group Notes

Based on Cases discussed at the Weekly PIG Clinical Meeting 19th July on 2018.
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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: **Should we proceed?**

A female late 70's, for shoulder replacement due to destructive rheumatoid arthritis and osteoporosis. 148cm 85kilos. Neck movement seemed to be ok. Had been through clinic and prepared reasonably appropriately. Intubated, interscalene block preformed. NIBP not reading well because of "chubby" arms and not well on the leg either so decision made to insert an arterial line. The anaesthetist then realised the implications of the severity of joint movement restriction – the elbows were in almost fixed flection and there was very limited abduction of shoulders. An arterial line was inserted in the cubital fossa (radial arteries not suitable) but as the patient was being positioned and prepped for surgery the skin movement over the arterial line dislodged the cannula. Anaesthetist unable to insert an arterial line into the dorsalis pedis. Question: - Should we proceed?
Discussion: - 1. What is the overall incremental risk at this stage, given that the patient has already been anaesthetised and has a working block in situ? 2. What would you do differently next time? (discussed):- Long arterial lines are available (which may have been a better choice given the subcutaneous tissue overlying the cubital fossa):- If the case was rescheduled, the cubital fossa artery line could be used again (with the longer version). Cerebral Oximeter discussed but there is limited evidence that they work and it was not available anyway. A Pulse Oximeter on the ear (i.e. using a second pulse oximeter) may act as some indication of cerebral perfusion. *What happened?* The NIBP on the leg started working more predictably as the patient was anaesthetised. It was decided to go ahead but without the patient sitting up – (the surgeon was agreeable to this), and proceeded with surgery promptly. The quality of the communication and teamwork between the surgeon and the anaesthetist was reassuring to the anaesthetist.

Finally the case emphasised that the limited limb movement was not noted in the preop clinic notes and the ramifications of this was not noticed by the procedural anaesthetist on day of surgery.

TOPIC 2: **Allergy Follow-up**

Patient for a Gynae Laparotomy 194kilos 168cm has an allergic reaction presumed to be to rocuronium. How should this be managed next time?
Discussion: - Follow-up investigations should be performed through established anaesthetic allergy investigation centres; Referral using the standard ANZAAG referral forms, which are in the Anaphylaxis emergency response boxes, or on the ANZAAG website. (In JHH this is through the Immunology clinic). In this case there is no great urgency for surgery, and surgery can wait for immunological investigation. Conventionally this is done 4 to 6 weeks post reaction, however even 1 week post reaction the results of skin testing are probably reasonably reliable although there are some academic differences of opinions on this in the anaphylaxis testing community. In this case it can be reasonably presumed that the reaction was to rocuronium (the patient had not had anti-biotics anyway). In future cases it would be reasonable to proceed with suxamethonium for rapid sequence induction. Suggested to give PPI beforehand to minimise risk of aspiration. Use THRIVE to maximise oxygenation. Useful resources are available at www.anzaag.org the website of the Australian and New Zealand Allergy and Anaesthesia Group. Prophylactic H1 and H2 blockers have not been shown to be useful and are not supported by ANZAAG.

TOPIC 3: **Myasthenia Gravis**

A 65 year old with known Myasthenia as well as other comorbidities is booked for ankle fusion. She is reasonably asymptomatic. Treated with azathioprine and steroids. There is some textbook discussion that inhalational agents have more depressive effect on the neuromuscular junction. What to do?
Discussion: - The main issue should be to avoid NDPMRs. Sensitivity to these is unpredictable and they are not required for this surgery anyway. The difference in effect between inhalational agents and propofol is extremely unlikely to be clinically significant and inhalational anaesthesia is a very reasonable technique.

TOPIC 4: ***MonoAmine Oxidase Inhibitors***

A 68 year old patient for booked surgery, on treatment for depression with Parnate (Tranylcypromine -an irreversible monoamine oxidase inhibitor) for many years. The liaison psychiatrist consulted said that for safe anaesthesia the MAOI should be stopped for 2 weeks. The patient reported that they had had a total knee replacement last year without any problems. The patient is extremely reluctant to stop the drug.
Discussion: - The main concern with monoamine oxidase inhibitors is interaction with pethidine or tramadol, both of which are easily avoided. Other opioids can be used safely. Indirect acting vasoconstrictors may be of concern (opinions differ on this point) and so phenylephrine or if necessary noradrenaline would be used for blood pressure control. Given the range of anti-depressants now available, it can be reasonably presumed that any patient on MAOI has depression that is resistant to treatment with other anti-depressants. There is a very real risk of precipitating major depression in 2 weeks with cessation of therapy, and this represents a much greater risk to the patient than the need for some (minor) modification of anaesthesia. Therefore the psychiatrist's advice should be not followed, and surgery should proceed without ceasing MAOI.

TOPIC 5: **Sickle Cell Disease**

A 25 year old Saudi Arabian student resident in Australia presents with a *sickle crisis*, with very severe pain in back, chest, shoulders, 'everywhere'. Emergency department sought anaesthesia/pain advice. The patient had been given fentanyl 50mg twice but was still in pain. The anaesthetist was familiar with sickle cell disease due to African experience. Pain management requirements are easily underestimated. Treatment requires hospital admission, keeping warm, fluid hydration and adequate analgesia. Hence changed to Hydromorphone PCA plus a Ketamine infusion at 0.15mg/kg/hr. The pain settled and the patient was able to be discharged 2 days later. There were no problems with hallucinations due to Ketamine at that dose although the patient has been warned about it. Sickle Cell disease (i.e. Homozygotes) are becoming more common in Australia particularly in areas with a high immigrant population from Africa or the Middle East.