"From the Trough"

Perioperative Interest Group Notes

Based on Cases discussed at the Weekly PIG Clinical Meeting on 14th February 2019. Publication date 18th February 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: Ross Kerridge, Paul Healey, Pragya Ajitsaria, Nick Roberts, Ben Bartlett, Will Moor, Sarah Armarego

TOPIC 1: *35 year old female G6 P5 for LSCS and tubal ligation. NESB, requiring an interpreter.*

Patient reports that her husband does not want her to have the tubal ligation, however patient had been advised by Obstetrics team not to have further children and wanted the tubal ligation. The patient's husband had good English language skills, and the patient was concerned about him finding out about tubal ligation.

Noted the cultural sensitivity of this issue, and difficulties of avoiding multiple 'public' checks of consent.

Discussed various strategies for avoiding discussion of consent in front of husband. Agreement that all senior members of the team need early notification of case and plan for day of surgery.

TOPIC 2: *Male in 60s for spinal surgery.*

Presents to clinic with HARD card from many years ago noting MH reaction in cousin under anaesthesia that led to the cousin's death. The patient reports? Genetic testing many years ago with no formal diagnosis of MH. His family was somewhat estranged and he was uncertain about the follow up in his cousin's side of the family.

Discussion about modern day testing for MH. This includes genetic testing for common MH causing variants or in-vitro contracture testing with a quadriceps muscle biopsy.

There is a new Australian resource available at http://malignanthyperthermia.org.au. This is endorsed by ANZCA and includes resources for crisis situations and on-line referral pathways (similar to the Anaphylaxis guidelines). It also includes an on-line learning package and information for anaesthetists.

Discussed whether an updated referral would be suitable for this patient to assist clarification of risk of MH.

TOPIC 3: *60s male with BMI 42 presents to clinic for elective THR.*

It was noted in clinic that his random BSL was 10.2 mmol/L. He was sent for a HbA1c to attempt to diagnose Type 2 diabetes.

HbA1c is now acceptable as a diagnostic test for diabetes. The threshold for diagnosis is at an HbA1c level of 6.5%. The existing glucose criteria for the diagnosis of diabetes remain valid as well.

The criteria for the diagnosis of diabetes are now:

- HbA1c ≥6.5% (48 mmol/mol)
- Fasting glucose ≥7.0 mmol/L
- Random glucose ≥11.1 mmol/L
- On a 75 g oral glucose tolerance test: fasting glucose ≥7.0 mmol/L or 2 hr glucose ≥11.1 mmol/L

In an asymptomatic patient the test should be repeated for confirmation of the result and diagnosis. An abnormal result on 2 different diagnostic tests is also acceptable. The diagnosis of diabetes has potential significant ramifications for the patient and their family.

Conditions that may reduce glycated haemoglobin (HbA1c) levels and make HbA1c inaccurate:

Increased erythropoiesis
Iron, vitamin B12 or folate administration, erythropoietin therapy, chronic liver disease, reticulocytosis

Abnormal haemoglobin
Haemoglobinopathies, haemoglobin F, methaemoglobin

Reduced glycation
Aspirin, vitamins C and E, certain haemoglobinopathies, increased intra-erythrocyte pH

Elevated erythrocyte destruction
Haemolytic anaemia, haemoglobinopathies, splenomegaly, rheumatoid arthritis, certain medications (eg, antiretroviral agents, ribavirin, dapsone)

Assay problems
Haemoglobinopathies, hypertriglyceridaemia.
Interestingly this same patient had an unexpectedly high Ferritin of 1600 mcg/L (Normal <300mcg/L), with normal transferrin saturation. Initially Haemochromatosis was considered, however, after discussion with Haematology team, they considered the cause to be metabolic syndrome/fatty liver, as the transferrin saturations are usually high in Haemochromatosis.

Further reading : https://www.racgp.org.au/afp/2012/december/elevated-serum-ferritin/

TOPIC 4: 77 year old female from Tingha (where there are currently bushfire alerts!) for spinal surgery.

She has a background history of Type II DM and was still taking her gliflozin medication when seen on the day before surgery.

Discussion noted the following:

- Difficulty of pre-operative consultation on distance patients, especially at short notice. Ideally patients are triaged and high risk medication management planned prior to pre-operative consultation. This case will be fed back to preoperative clinic.
- Should we cancel procedure? Risks vs benefit of cancellation discussed.
- Noted that patient also on long acting insulin. This may provide some protection from DKA.
- Decision made to proceed to surgery. Discuss with Endocrine team for perioperative planning, including regular post-operative blood pinprick ketone testing.

Recommendations from Australian Diabetes Society:

- **Strongly consider postponing non-urgent surgery if SGLT2 inhibitors have not been ceased prior to surgery and either blood ketones are >0.6 mmol/L, or HbA1c is >9.0%, as these are indicators of insulin insufficiency and a higher risk of DKA.**
- **Routinely check both blood glucose and blood ketone levels in the perioperative period if the patient is unwell or is fasting or has limited oral intake, and has been on an SGLT2i prior to surgery.**
- **If the blood ketone level is >0.6 mmol/L in an unwell pre- or peri-operative patient or >1.5 mmol/L in all other unwell inpatients who have been on an SGLT2i, the treating medical officer and, where relevant, anaesthetist, should be contacted to perform an URGENT VBG to measure the pH.**