2020 Monash trial written exam Q16 (Michael Coman)

Answer sheet.

A 15yo girl with a known eating disorder is referred to your ED with a significant and sustained deterioration in her condition over the past month.

1. **What is the formula to calculate body mass index? (1 mark)**

* Weight (kg)/height (m) squared
* ½ mark if units omitted

1. **List five (5) features on physical examination that would confirm your decision for hospital admission (5 marks)**

* Hypothermia (<35.5) (<36 Dunne)
* Bradycardia <50 (40 Dunne)
* Postural tachycardia >30
* Systolic BP <80 mmHg (reluctantly allow <90/60 Dunne)
* Postural hypotension >20mmHg
* Dehydration
* Arrythmia
* Significant weight loss (<75% of expected), or rapid weight loss (>10-15% over 3-6 months as per RCH guidelines).
* Symptomatic hypoglycaemia
* Altered conscious state
* Signs of heart failure

Notes:

* Self-harm injuries not accepted unless qualified to make it clear that admission is clearly required
* BMI: No reference I found stated a specific BMI to guide hospital admission. (BMI is used to assist defining an ED) Candidates nominated BMI’s from <12 to <17.5. While I agree the lower the BMI the more likely admission, BMI in isolation was not accepted as an answer.
* Half mark if no values ie ‘postural hypotension’ =0.5 marks
* Tachypnoea not accepted – not sufficiently discriminatory
* Weight loss of >1kg week on week accepted

1. **List four (4) investigations that you would perform and the abnormalities you may expect to see in a patient with a medically unstable eating disorder (4 marks)**

|  |  |
| --- | --- |
| INVESTIGATION | ABNORMALITY |
| ECG | Bradycardia/AF/prolonged QTc >.45s |
| glucose | Hypoglycaemia <3 – 3.5 or symptomatic |
| U+E’s | K <3.0, hypoNa if water loading |
| Extended electrolytes: Ca/Po4/Mg | Hypophosphataemia  Hypocalcaemia – mentioned in Dunne, reluctantly accepted |
| LFTs | Hypoalbuminaemia, malnutrition hepatitis |
| VBG | Hypochloraemic Metabolic alkalosis |
| Urine | ketonuria |
| CXR | Signs of heart failure |
|  |  |

* FBE showing anaemia/thrombocytopaenia/pancytopaenia: not accepted. They are more chronic findings and aren’t a good discriminator for medical instability
* B12, folate, iron studies, vit D, FSH etc – all chronic, reflect malnourishment. No banana
* Didn’t have to give a value in this section, but lost 0.5 mark if value given and incorrect

1. **In adolescents admitted with an eating disorder, list two (2) clinical features and two (2) investigation findings that would support a diagnosis of refeeding syndrome (2 marks)**

|  |  |
| --- | --- |
| **Clinical features** | **Investigation findings** |
| congestive heart failure/ tachypnoea | Hypophosphataemia |
| peripheral oedema | Hypokalaemia |
| Neurological: Confusion/seizures/encephalopathy/ peripheral neuropathy | Haemolysis |
| arrhythmia | hypomagnesaemia |
| Myalgia/muscle weakness | Evidence of rhabdomyolysis |
|  | hyponatraemia |
|  | Pulmonary oedema on CXR |

Refeeding = hypophosphataemia and volume overload and all the sequellae that ensues

Comments:

* Many candidates said that hyperphosphataemia was a feature of refeeding syndrome.
* Pass mark 8.5/14. (Note that the ACEM exam incorrectly scored the exam out of 12, if you received >12 for the question I mentioned this in comments but the maximum mark that could be entered was 12.
* Range 2.5 – 13.5
* Don’t be satisfied if you received 8.5, the pass mark probably should have been 9

References:

* RCH clinical practice guidelines
* Up to Date
* Cameron. Textbook of Paediatric Emergency Medicine
* Dunne. The Emergency Medicine Manual

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