




Question 4



 @DrSimonCraig

Question

An 18 month-old girl presents to the ED with vomiting and drowsiness.

She is afebrile with no focal neurology.

Airway, breathing and circulation are stable.

Blood glucose 1.4 mmol/L



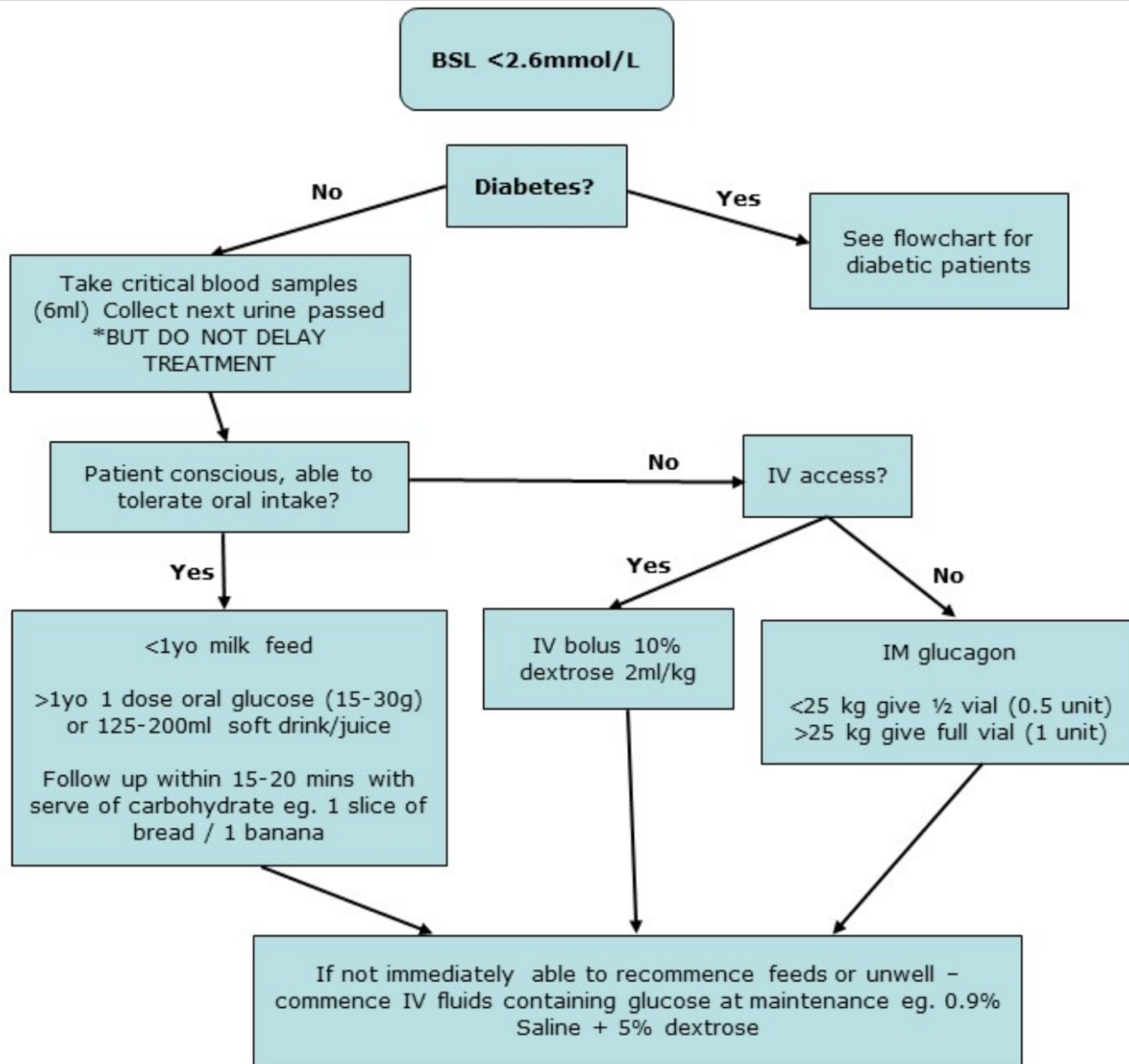
This is a question
about a hypoglycaemic
child.



It is not primarily about...

- Non-accidental injury
- Head injury
- A shocked child
- DKA
- Intussusception
- Meningococcaemia
- Epilepsy
- Sepsis (although part of DDx)





List six differential diagnoses

Idiopathic ketotic hypoglycaemia (“accelerated starvation”) (1 mark)

Endocrine / metabolic (up to 2 marks)

- Hyperinsulinism
- Adrenal insufficiency
- Glycogen storage disorders
- Gluconeogenic disorders
- Fatty acid oxidation disorders

Pharmacologic / toxic (up to 2 marks)

- Insulin, sulfonylurea (not metformin)
- Alcohol
- Beta-blockers (propranolol more likely than atenolol / metoprolol)
- Salicylates, valproate, chloroquine / quinine

Sepsis, heart disease, tumours are all rare causes. (up to 1 mark)

State 6 management steps

- Take **bloods** for critical hypoglycaemia tests (1 mark)
 - o ketones, lactate, VBG, ammonia, cortisol, insulin, C-peptide, etc
 - o Did not have to remember them all, but did have to remember that they needed taking! *½ mark if any were mentioned.*
- **Glucose!** (2 mL/kg of 10% glucose) (1 mark) – ½ mark for glucagon
- **Ongoing replacement** (oral) once awake, or IV (if not eating) (1 mark)
- **Recheck / monitor BSL** (1 mark)
- **Disease-specific treatment and disposition** (up to 2 marks)
 - o If hypo-adrenalism, give **hydrocortisone** (not dexamethasone)
 - o **Octreotide** if sulfonylurea overdose and refractory hypoglycaemia
 - o **Treat sepsis** (appropriately) if suspected
 - o **Referral** to gen paeds +/- endocrinology and seek admission (up to 1 mark)

What is “reasonable”?



Essential information?

- Critical tests for non-diabetic hypoglycaemia
- Treatment (2 mL/kg of 10% glucose)
- Sensible list of differentials
 - **Starvation / ketosis most likely**

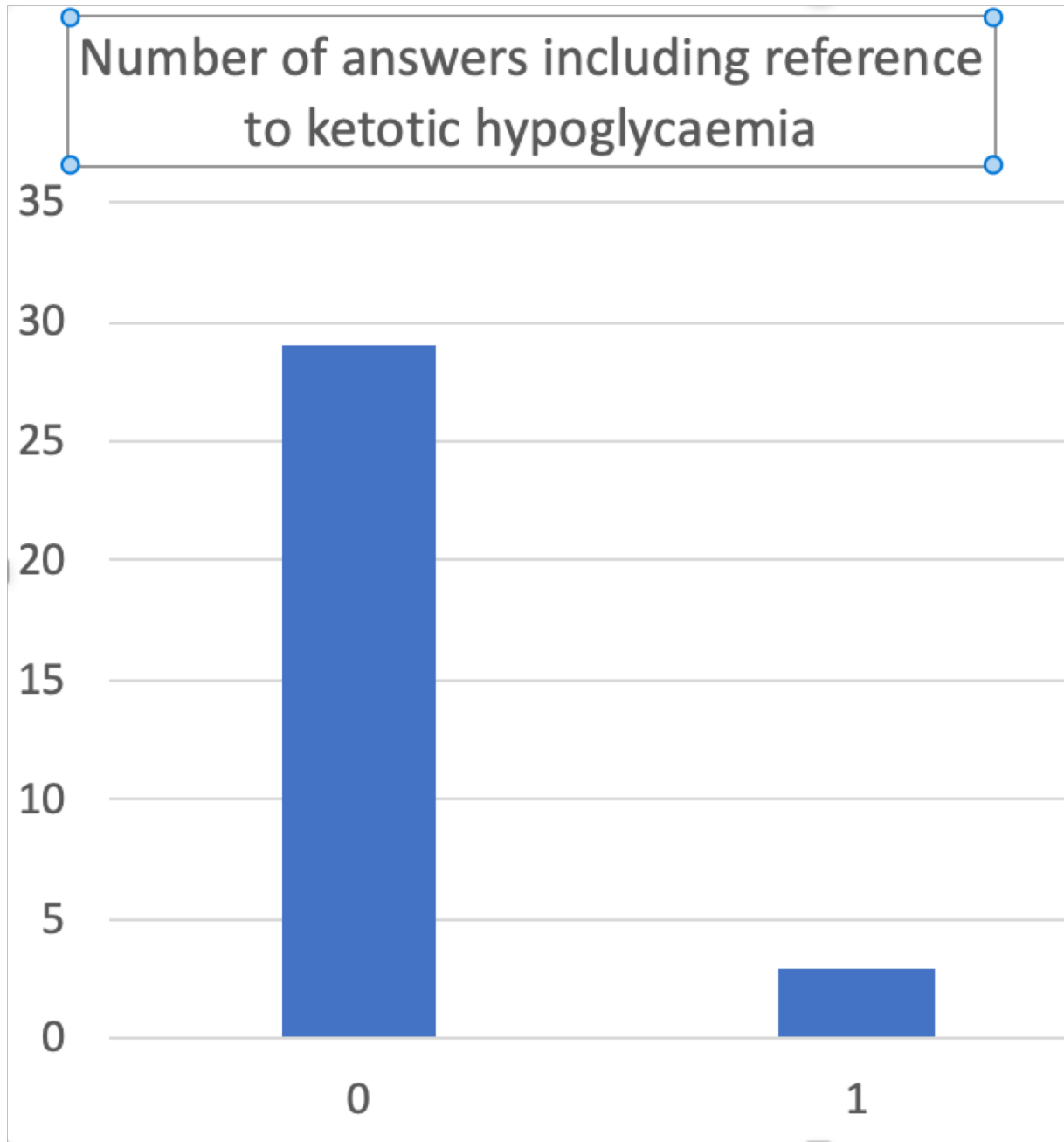


Questionable practices...

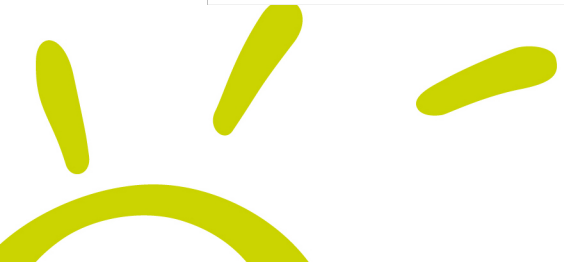
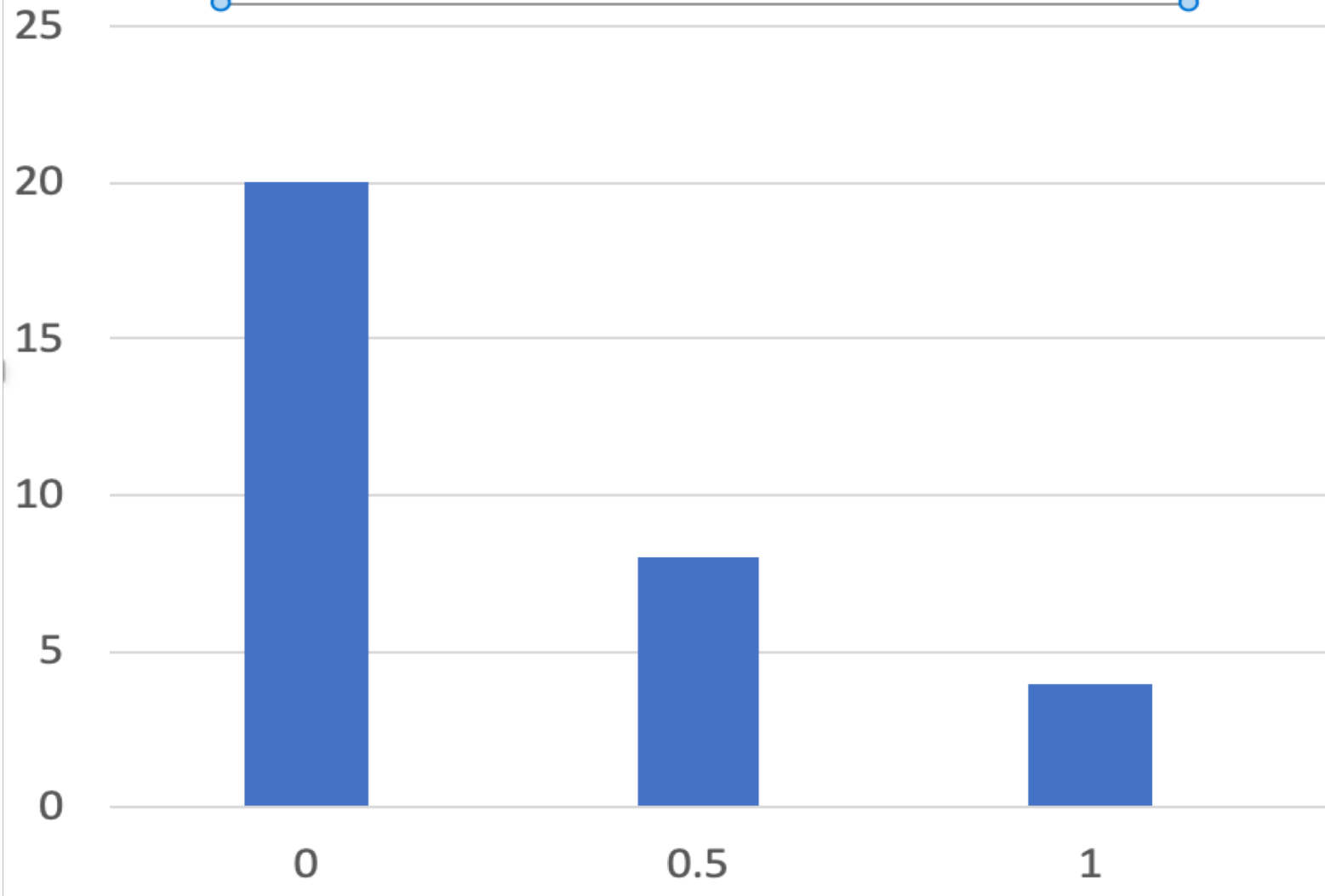
- 25 mL of 50% glucose
- Fluid boluses of 0.9% sodium chloride
 - NOTE – ABCs all normal
- Setting up for intubation
- Urgent CT brain or NAI workup



Number of answers including reference to ketotic hypoglycaemia



Number of answers including reference to critical blood tests



Total score (out of possible 12)

