Two cases of type 1 diabetes in adolescents: to test blood glucose or not to test?

Case report

Case 1

During a regular clinic visit to the paediatric endocrinologist, a 16-year-old female with type 1 diabetes mellitus since the age of six, reported frequent hypoglycaemia episodes. She felt dizzy and tired but had no loss of consciousness with blood glucose levels around 1.7–2.8mmol/L (30–50 mg/dl).

There was no correlation between these episodes and exercise. She recalled four episodes at different times of the day. The mother stated that she had not seen these episodes but were reported to her by her daughter. The patient stated that she was taking her daily insulin as prescribed without any errors. She denied any recent illnesses and reported no social stressors nor recent lifestyle changes. She denied any illicit drug use, alcohol abuse, or being sexually active. Her review of system and family history were non-contributory.

Her physical examination was unremarkable. Her weight and height were on the 50th percentile and she had no skin hyperpigmentation. She did not bring her logbook of documented blood sugar levels, nor her glucometer to her doctor’s appointment. Her haemoglobin A1c level at the time of the visit was 69mmol/mol (8.5%). Her two previous levels were 70 and 68mmol/mol (8.6 and 8.4%).

The patient was educated about hypoglycaemia management. Her total insulin dose was reduced by 10% and she was asked to record her finger blood sticks. A few hours later after discharge from her clinic appointment, the mother called back saying that the patient had reported another episode of hypoglycaemia with blood glucose of 2mmol/L (36mg/dl). The mother was advised to take the patient to the hospital to be monitored. The patient was admitted for further work up. She had normal blood glucose levels during 24 hours of observation. Her complete blood count, metabolic profile, electrolyte panel, and thyroid profile were normal. Pregnancy test was negative. Baseline ACTH and cortisol levels as well as stimulated cortisol levels after synthetic ACTH administration were normal, ruling out adrenal insufficiency. Further investigation of these hypoglycaemic episodes revealed that the mother had never seen the actual low glucose readings by the glucometer but rather relied on her daughter’s reports. Confronting the patient with normal work up and normal in-hospital downloaded blood sugars, she admitted faking the story of hypoglycaemia to avoid school. She had recently broken up with her boyfriend.

Paediatric psychiatry and adolescent services were consulted to help...
Children with type 1 diabetes have an increased risk of mental health problems. Depression and anxiety can negatively affect the metabolic control of type 1 diabetes. Psychological support for children and adolescents with type 1 diabetes should not be ignored as a major cornerstone in the delivery of diabetes care.
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References