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Unexplained altered states of consciousness in a girl

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Introduction

In children, congenital hyperinsulinism is the most common cause for endogenous hyperinsulinaemic hypoglycaemia (HH). Beyond infancy other diagnoses may be considered such as insulinoma, an insulin-secreting neuroendocrine tumour (NET) arising mostly from the pancreas. The latter is a rare cause of HH in children. The estimated incidence of insulinoma is 1:250'000 person-years of all age groups with a median age at diagnosis of 47 years. Herein, we report an adolescent girl with malignant insulinoma, which is extremely rare in children

Conclusion

Unclear behavioural changes should prompt blood glucose measurement.

Malignant insulinoma is an extremely rare finding in children and its management in case of progression or relapse remains mainly experimental.

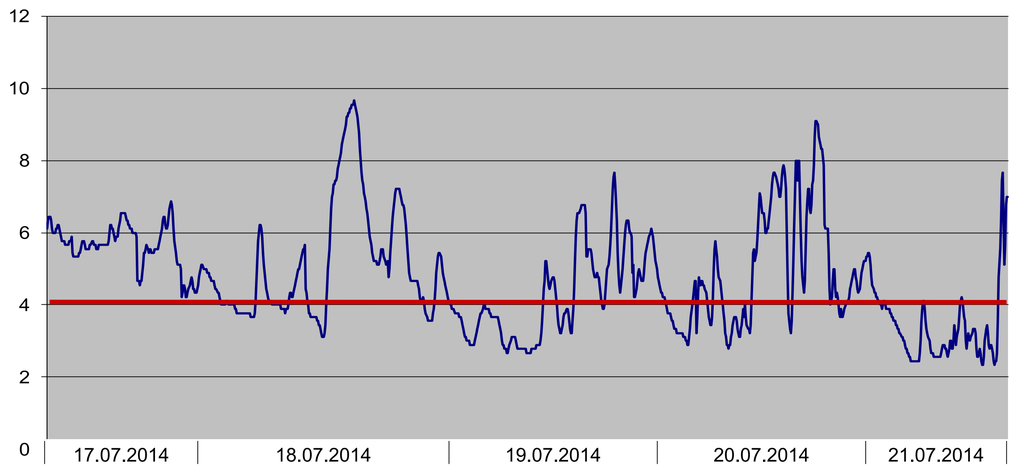
Case Presentation

A previously healthy 15-year-old girl presented at the emergency department with a history of vertigo, fatigue, recurrent feeling of faintness, intermittent inadequate behaviour and amnesia for the event for the last 6 months. Physical and neurological examinations were normal. No evidence for organic brain disease was present and symptoms were interpreted to be functional. The patient was hospitalized for further evaluation. At the first night, the patient fell unconscious and hypoglycaemia was diagnosed (**Table 1**). She rapidly recovered under intravenous glucose supply. Further evaluation revealed increased serum insulin and C-peptide levels. On continuous glucose monitoring multiple hypoglycaemic episodes were identified (**Figure 1**). An MRI scan of the abdomen demonstrated a solid mass in the pancreatic tail as well as two liver lesions suspicious for metastases (**Figures 2 and 3**). Surgical resection of the tumour and the pancreatic tail was performed. The intrahepatic lesions were identified by ultrasound and resected as well. Histological examination confirmed the diagnosis of a NET with liver metastases. MEN-Typ1 was excluded. A follow-up 8 months later revealed no evidence of hypoglycaemia, but a new suspicious liver lesion on MRI scan.

Findings

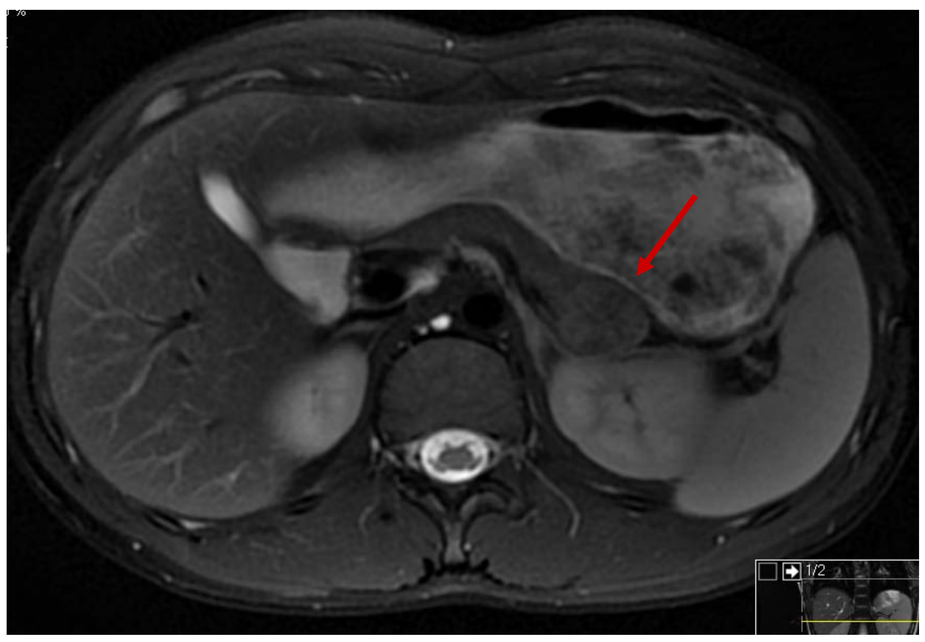
► **Table 1:** Laboratory examination during hypo-glycaemia

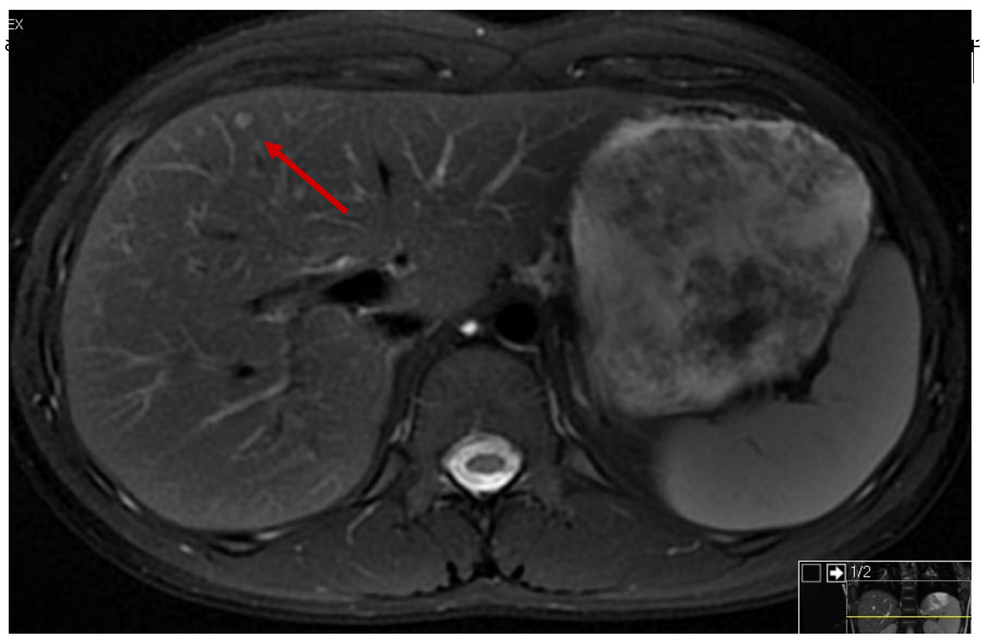
Blood glucose	1.1	mmol/L
Insulin	63	pmol/l
C-peptide	871	pmol/L
Growth hormone (GH) basal	12	ng/ml
Cortisol	576	nmol/L
Urine keton bodies	negative	



◄ **Figure 1:** Continuous Glucose Monitoring (CGM) indicating recurrent hypogly-caemic episodes

► **Figure 2:** MRI-scan showing a solid mass in the pancreatic tail





◄ **Figure 3:** MRI-scan showing a liver lesion suspicous for meta-stasis

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Hypoglycaemia

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