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Case Report

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Variability of Diagnostic Imaging in a Suicidal Attempt with Insulin

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Abstract

We present a case report of an autolytic attempt with insulin in a non-diabetic patient which shows an initial Magnetic Resonance which usually indicates good prognosis, in contrast with the second one. After one week the control MRI drastically changes with the recovery of most white matter lesions but with multiple new ones in grey matter, darkening greatly this patient prognosis, therefore showing the variability of diagnostic imaging in this kind of cases.

Keywords: Insulin; Intoxication; Magnetic; MRI; Overdose; Prognosis; Resonance; Suicide

Introduction

Voluntary drug intake as a suicide attempt is a worldwide health problem with an increasing incidence. Early and accurate identification of the drug responsible of the intoxication is of upmost importance in order to administer the right treatment and support to these patients.

Case Report

We hereby present the case of a 43-year-old woman with dysthymia under treatment with diazepam and lormetazepam. After 24h with no contact with her family she is found unconscious in her house. Emergency Services are called. First medical contact by emergency Services in her house, finding her with a Glasgow Coma Scale (GCS) of 5/15 points, with reactive normal-sized pupils. Blood Pressure 98/65 mm Hg, Heart Rate 78 bpm, Peripheral Oxygen Saturation (SpO_2) 93%. There are many blisters surrounding the patient with benzodiazepines. Around 20 mg of lormetazepam and 100mg of diazepam are missing. Emergency Services administer 1mg of intravenous flumazenil without any effect, so they proceed to orotracheal intubation, invasive mechanical ventilation and transfer to our center. Upon arrival to the hospital: HR 86 bpm, BP 136/75 mm Hg. SpO_2 99% with FiO_2 100%. Still GCS 5/15 points, with reactive pupils. A Brain CT scan with intravenous contrast is carried out and informs of a diffuse hypodensity in left occipital white matter. A Magnetic Resonance Imaging is then made with diffusion restriction in the whole supratentorial white matter without grey matter damage. The patient is then admitted to the Intensive Care Unit. In blood analysis the only altered results are glucose 34 mg/dL and potassium 2.64 mmol/L. Benzodiazepines are detected in urine analysis. In a second look exploration four injection points are found on the left thigh. On suspicion of insulin intoxication 1 mg of SC glucagon is administered and a continuous IV perfusion of glucose is initiated, administering 150g of glucose in total until blood glucose is normalized 14h later. Hypokalemia is also corrected. Her husband is reinterrogated for diabetic relatives and he explains that one of their sons is a type I diabetic. He then

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returns home and finds 5 empty insulin syringes, summing up to 1500 IU of ultraslow insulin. The suspicion is then confirmed by insulin levels of 1488 pg/mL and 0,326 nmol/L of C peptide. During her stay in the ICU bad neurological evolution ensues. After withdrawal of sedoanalgesia the patient only opens eyes spontaneously without focusing gaze, as well as upper limbs flexion movements. No reactions to external stimuli. Electroencephalogram compatible with diffuse encephalopathy.

Control MRI

Lesions compatible with cytotoxic edema in the cortex of both hemispheres, basal ganglia, corpus callosum, and cerebellar peduncles. After 8 days of admission to the ICU, the patient remains in an apperceptive coma with spontaneous ventilation through tracheostomy.

Conclusion

The prognosis of hypoglycemic encephalopathy is conditioned by the degree of hypoglycemia and its duration. NMR images provide information about the degree of brain damage.

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Conflict of Interests

No conflicts to declare.

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